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Annual Graduate Bulletin

INDIANA
STATE COLLEGE

Indiana, Pennsylvania

Academic
Year
1962-63

1962
Summer
Sessions



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Issued Annually by the Trustees of the Indiana State College, Indiana, Pennsylvania. Entered as second-class matter, June 30, 1913, at the Post Office in Indiana, Pennsylvania, under Act of Congress, August 24, 1912.

THIS COLLEGE IS ACCREDITED BY THE NATIONAL COUNCIL FOR ACCREDITATION OF TEACHER EDUCATION FOR THE PREPARATION OF ELEMENTARY AND SECONDARY TEACHERS AND TEACHERS IN THE SPECIAL FIELDS OF ART, BUSINESS, HOME ECONOMICS, MUSIC, DRIVER AND SAFETY EDUCATION, DENTAL HYGIENISTS, AND PUBLIC SCHOOL NURSES WITH THE MASTER'S DEGREE AS THE HIGHEST DEGREE APPROVED, AND BY THE MIDDLE STATES ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS.

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DIVISION OF GRADUATE STUDIES

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| I. L. Stright, Ph.D. | Dean of Graduate Studies |
| Charles D. Leach, Ed.D. | Director of Research |

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CALENDAR

June 1, 1962—June 1, 1963

Pre-Session, June, 1962

- June 1—Applications for admission to the Graduate Division, for all students who plan to take work during the Pre-Session, must be filed at the Graduate Office on or before this date.
- June 8-9 Registration and payment of fees for all graduate students in Pre-Session.
- June 11—Pre-Session classes begin.*
- June 15—Applications for admission to the Graduate Division, for all students who plan to take work during the Main Session, must be filed at the Graduate Office on or before this date.
- June 22—End of classes, Pre-Session.

Main Session*

- June 21—Registration and payment of fees for all graduate students in Main Session.
- June 26—Main Session classes begin.
- July 1—Final draft of research project or thesis due for August graduates.
- July 20—Applications for admission to the Graduate Division, for all students who plan to take work during the Post-Session, must be filed at the Graduate Office on or before this date.
- August 3—End of classes, Main Session.

Post Session

- August 2—Registration and payment of fees for all graduate students in Post-Session.
- August 6—Classes begin, Post-Session.*
- August 17—Classes terminate, Post-Session.
- August 19—Summer Commencement.
- August 23—End of Post-Session.
- August 31—Applications for admission to the Graduate Division, for all students who plan to take work during the Fall Semester, 1962-1963, must be filed at the Graduate Office on or before this date.

*During the Pre- and Post-Session classes will meet on ten days. On each day there will be two sessions; one starting at eight o'clock and running to 9:15, with the second starting at 10:45 and running to 12:00. During Main Session graduate students may carry three courses. For each course there will be one class meeting for an hour in length per day.

Fall Semester, 1962-63

- September 11—Registration and payment of fees for all graduate students in Fall Semester
- September 12—Evening classes begin.
- September 15—Saturday classes begin.
- November 21—Thanksgiving vacation begins
- November 26—Thanksgiving vacation ends.
- December 1—Final draft of research project or thesis due for January graduates.
- December 19—Christmas vacation begins.
- January 1—Christmas vacation ends.
- January 16—Applications for admission to the Graduate Division, for all students who plan to take work during the Spring Semester, must be filed at the Graduate Office on or before this date.
- January 19—Semester ends.

Spring Semester, 1962-63

- January 26—Registration and payment of fees for all graduate students in Spring Semester.
- January 29—Evening classes begin.
- February 2—Saturday classes begin.
- April 1—Final draft of research project or thesis due for May graduates.
- April 9—Easter vacation begins.
- April 15—Easter vacation ends.
- May 18—Classes terminate.
- May 23—Semester ends.

GRADUATE PROGRAM — TENTATIVE SCHEDULE FOR SUMMER SESSIONS, 1962

| Main Session | | | | Post-Session, 1962 |
|--|---|--|--|--|
| Pre-Session, 1962 | 7:45-8:40 | 9:20-10:15 | 10:55-11:50 | |
| Bus 550 Prim. & Prob. of Business Education | Bus 535 Consumer Economic Problems | Bus 530 Bus. Communication & Report Writing | Bus 500 Accounting Systems Management | Bus 551 Administration & Super- vision of Business Education |
| Ed 512 Philosophical Foundations of Education | Bus 552 Seminar in Bus. Education | Bus 534 Case Problems in Business Law | Bus 560 Improvement of Inst. in Secretarial Cours. | Ed 512 Philosophical Foundations of Education |
| Ed 513 Social Foundations of Education | | Bus 570 Econ. Background in Bus. (Non-Bus. Majors) | | Ed 515 Elements of Research |
| Ed 515 Elements of Research (2 Sections) | Ed 512 Phil. Found. of Education | Ed 512 Phil. Found. of Education | Ed 513 Social Found. of Education | Ed 518 Seminar in Sensory & Audio-Visual Materials |
| Ed 534 Diagnosis & Remediation in Reading | Ed 513 Social Found. of Education | Ed 515 Elements of Research | Ed 515 Elements of Research | Ed 544 Recent Trends in Elementary Language Arts |
| Ed 542 Arithmetic in the Elementary School | Ed 516 Statistical Meth. in Education I | Ed 516 Statistical Methods in Educa. I | Ed 517 Statistical Methods in Education II | EngS 531C Majors Writers — Hardy & Meredith |
| EngS 529 The Romantic Poets | Ed 522 Prim. & Prac. of Speech Improvement | Ed 535 Theory & Clinical Prac. in Reading | Ed 535 Theory & Clinical Prac. in Reading | Geog 528 Seminar in South America |
| EngS 511 Seminar in the Teaching of English in the Secondary School | Ed 541 Spec. Problems in Elem. Social Studies | Ed 531 Curr. Probs in Elem. Education | Ed 543 Resource Materials in Elem. Science | Guid 534 Evaluative Methods in Guidance II |
| Geog 521 Advanced Human Geography | Ed 545 Exper. Studies in Art Education | Ed 533 Road. Dis. of Elem. Sch. Children | Ed 546 Mod. Proc. & Skills in Elementary Music | Guid 537 Techniques in Counseling |
| Guid 533 Evaluative Methods in Guidance I | | | Ed 547 Resource Material in Children's Literature | Guid 538 Organizing & Administering the Guidance Program |
| Guid 535 Study of the Individual | EngS 531D Major Writers Whitman & Twain | EngS 510 Bibliographical Methods in English | EngS 521 Modern European Fiction | Mus 531 Administrative Problems in Music Education |
| Guid 536 Occupational & Educational Information | EngS 512 Modern American English Grammar | FL 521 Language and Society | | Mus 535 Psychology of Music Education |
| Mus 533 Comparative Choral Methods | | Geog 537 Seminar of Eastern U.S. | Geog 523 Urban Geography | Psy 531 Psychology of the Exceptional Child |

| | | | | |
|---|---|---|---|--|
| Mus 534 Comparative Instrumental Methods | Guid 531 Philosophy & Princ. of Guidance | Guid 531 Phil. & Prin. of Guidance | Guid 532 Psychology of Growth & Development | Psy 540 Mental Hygiene |
| Psy 532 Studies in Child Adjustment and Guidance | Guid 536 Occup. & Educ. Information | Guid 532 Psy. of Growth & Development | Guid 534 Evaluative Meths. in Guidance II | SS 551 International Economics |
| Sci 521 Recent Advances in Science | Guid 537 Techniques in Counseling | Guid 533 Evaluative Meths. in Guidance I | Guid 535 Study of the Individual | SS 581 Problems in Logic |
| Sci 533 History of Science & Scientific Literature | Guid 539 Group Guidance | Guid 538 Org. & Adm. the Guidance Program | Guid 551 Individual Dia. in Guidance | HPe 530 Workshop in Community-School Health Education |
| SS 531 Economic & Social History of Pennsylvania | | Guid 540 Clinical Tech. in Guidance | | |
| SS 544 History Seminar | Math 526 Fund. Concepts in Analysis | Math 560 Foundations of Algebra | Math 510 Seminar in Math I | |
| SS 563 Intergroup Relations | Math 580 Logic | Math 573 Topology | Math 511 Seminar in Math II | |
| Ed 540 Supervision of Student Teaching | Mus 506 Mus. Literature of Late Romantic Era | Mus 511 Composition | Mus 501 Advanced Choral Conducting | |
| | Mus 507 Music Literature Since 1900 | Mus 532 Seminar in Music Education | Mus 502 Advanced Instrumental Conducting | |
| | Sci 561 Plant Structure | Psy 531 Psychology of the Exceptional Child | Mus 515 Canon, Double Counterpoint and Fugue | |
| | | Sci 553-554 Taxonomy of Animals | | |
| | | Sci 565-566 Advanced Inorganic | Sci 531 Atomic Structure | |
| | SS 561 Social Policy Studies | SS 553 Contemporary Economic Issues | SS 564 Sociology Seminar | |
| | SS 572 Comp. Pol. Studies | Indiana in Mexico (see pages 20 & 21 Graduate Bulletin) | | |

Music 540-591 will be offered as needed.

Geog 550 Geographic Reading in Geography may be scheduled on an individual basis through the chairman of the department.

GRADUATE PROGRAM

1st Semester 1962-63

| (5:30-7:10 P. M.) | | | Tuesday Evening | | (7:30-9:10 P. M.) | |
|-------------------|------|--|-------------------|-----|--|--|
| Bus | 501 | Principles of Fed. Tax. Acctg. | Guid | 537 | Tech. in Counseling | |
| Ed | 512 | Phil. Founds. of Education | Math | 571 | Modern Geometrics | |
| EngS | 533 | British Drama Since 1880 | Mus | 504 | Music Literature of 18th Century | |
| Geog | 526 | India, Pakistan and Indo-China | SS | 544 | History Seminar | |
| Guid | 532 | Psy. of Growth & Development | | | | |
| SS | 591 | Studies in Anthropology | | | | |
| (5:30-7:10 P. M.) | | | Wednesday Evening | | (7:30-9:10 P. M.) | |
| El | 531 | Curr. Probs. in Elem. Ed. | Ed | 516 | Stat. Methods in Education I | |
| Guid | 531 | Phil. & Prin. of Guidance | | | | |
| Guid | 539 | Group Guidance | SS | 521 | Contemporary Amer. Issues (open only to non-SS majors) | |
| (5:30-7:10 P. M.) | | | Thursday Evening | | (7:30-9:10 P. M.) | |
| Bus | 532 | Prin. of Invest. of Securities | FL | 521 | Language & Society | |
| Ed | 515 | Elements of Research | Geog | 530 | Seminar in U.S.S.R. | |
| El | 533 | Read. Dis. of Elem. Sch. Child. | Guid | 533 | Eval. Methods of Guid. I | |
| EngS | 531A | Major Writers - Emerson, Hawthorne, Thoreau | Mus | 501 | Advanced Choral Conducting | |
| Psy | 531 | Psy. of Exceptional Child | Sci | 541 | Comparative Anatomy I | |
| Sci | 510 | Probs. in Science Education | Sci | 546 | Biochemistry I | |
| (9:00-10:40) | | | Saturday Morning | | (11:00-12:40) | |
| Art | 521 | Contemporary Move. in Art | Bus | 511 | Advanced Shorthand for Tchrs. | |
| Bus | 562 | Improve. of Inst. in Bkkg. & Bus. Arithmetic | Ed | 515 | Elements of Research | |
| Ed | 513 | Social Founds. of Education | Ed | 534 | Diag. & Remediation in Reading | |
| EngS | 531B | Major Writers: Faulkner and Hemingway | EngS | 510 | Bibliographical Meths. in Eng. | |
| Geog | 563 | Field Course in Geography | Geog | 555 | Advanced Cartography | |
| Guid | 536 | Occup. & Educ. Information | Guid | 535 | Study of the Individual | |
| Guid | 551 | Individual Diag. in Guidance | Math | 531 | Advanced Calculus I | |
| Math | 560 | Modern Algebra I | Mus | 534 | Comparative Instrumental Methods | |
| Mus | 512 | Advanced Orchestration | Sci | 572 | Demonstrations in Physics & Chem. | |
| Psy | 532 | Studies in Child Adj. & Guid. | SS | 573 | Regional Political Studies | |
| Sci | 545 | Microtechnique | | | | |

GRADUATE PROGRAM

2nd Semester 1962-63

| (5:30-7:10 P. M.) | | | Tuesday Evening | | (7:30-9:10 P. M.) | |
|-------------------|-----|-----------------------|-----------------|-----|-------------------------------------|--|
| Bus | 503 | Fin. State. Analysis | Math | 530 | Differential Equations | |
| Ed | 515 | Elements of Research | Mus | 505 | Mus. Lit. of the Early Romantic Era | |
| EngS | 525 | Chaucer | | | | |
| Geog | 551 | Probs. in Geog. Educ. | Psy | 540 | Mental Hygiene | |
| Guid | 536 | Occ. & Educa. Inform. | SS | 562 | Deviant Behavior | |
| SS | 582 | Probs. of Ethics | | | | |

| (5:30-7:10 P. M.) | | | Wednesday Evening | | (7:30-9:10 P. M.) | |
|-------------------|-----|------------------------------|-------------------|-----|-----------------------------------|--|
| Ed | 534 | Diag. & Remediation in Read. | El | 541 | Spec. Probs. in Elem. Soc Studies | |
| Guid | 535 | Study of the Individual | Guid | 537 | Tech. in Counseling | |
| Psy | 533 | Psy. of Personality | FL | 522 | Applied Linguistics | |

| (5:30-7:10 P. M.) | | | Thursday Evening | | (7:30-9:10 P. M.) | |
|-------------------|-----|-----------------------------|------------------|-----|----------------------------|--|
| Bus | 531 | Money & Banking | Geog | 552 | Seminar in World Resources | |
| Ed | 513 | Social Founds. of Ed. | | | | |
| Ed | 516 | Stat. Methods in Ed. I | Guid | 531 | Phil. & Prin. of Guid | |
| EngS | 537 | Contemporary Brit. Novelist | Mus | 514 | Adv. Choral Arranging | |
| | | | Sci | 542 | Comparative Anatomy II | |
| | | | Sci | 547 | Biochemistry II | |

| (9:00-10:40) | | | Saturday Morning | | (11:00-12:40) | |
|--------------|-----|--|------------------|-----|-------------------------------------|--|
| Bus | 520 | Retail Org. & Mgmt. | Bus | 561 | Imp. of Inst. in Basic Bus. Courses | |
| Ed | 512 | Phil. Founds. of Ed. | | | | |
| Ed | 531 | Reading Problems of Jr.-Sr. H. S. Studs. | Ed | 515 | Elements of Research | |
| El | 547 | Resource Material in Child Literature | El | 542 | Arithmetic in the Elem School | |
| EngS | 510 | Biblio. Methods in English | EngS | 527 | Restoration Drama | |
| Geog | 541 | Agricultural Geography | Geog | 556 | Map and Photo. Interpretation | |
| Guid | 534 | Eval. Methods in Guid. II | Guid | 532 | Psy. of Growth & Development | |
| Guid | 539 | Group Guidance | Guid | 538 | Org. & Adm. the Guid Prog. | |
| Math | 562 | Modern Algebra II | Math | 532 | Advanced Calculus II | |
| Mus | 502 | Adv. Inst. Conducting | Mus | 533 | Comparative Choral Methods | |
| Sci | 564 | Probs. in Biology | | | | |
| SS | 543 | Mod. Asian African Probs. | Sci | 571 | Adv. Laboratory Practice | |
| | | | SS | 574 | Political Science Seminar | |

GRADUATE STUDIES

at State College
Indiana, Pennsylvania

General Information

Location

Indiana State College is located in Indiana, Pennsylvania, a community with a population of approximately 20,000. Indiana is 30 miles north of Johnstown and 60 miles northeast of Pittsburgh. Situated in the foothills of the Allegheny Mountains, Indiana has a climate that is conducive to study the year round.

College Catalogue

Detailed information about the College, its academic requirements, the names of the faculty, and the facilities are described in the general catalogue. This publication may be obtained by writing to the Registrar.

Library

The College Library provides excellent facilities for graduate work with professional librarians readily available for assisting with specialized reference work.

The present book collection of over 71,000 volumes is supplemented by extensive holdings of periodicals, microfilms, microcards, curriculum materials, federal and state documents, association publications, and phonographic records.

The Rhodes R. Stabley Library was opened in 1961. It is designed to give efficient service through a uniform flow of library materials in an attractive, but functional setting. At least one professional librarian is always on duty to provide reference service.

All periodicals, reference volumes, microfilm and microcard materials are located on the main floor of the library. The book collection arrangement follows the Dewey Decimal Classification System. Books numbered 000 through 699 as well as the *reserve book collection* are located on the ground floor. Books numbered 700 through 999, fiction, the *curriculum materials collection*, the *children's literature collection*, *Pennsylvania collection*, and government documents are located on the top floor.

Graduate students are both encouraged and expected to spend time in the Library. Particular attention is given by librarians to graduate students in procurement of needed materials and the fur-

ther development of proficiencies. The Library subscribes to the spirit and the letter of the *General Interlibrary Loan Code* which regulates the procurement of interlibrary loans.

With the exception of those books which are reserved for special purposes, all books circulate for two weeks; unbound periodicals for one day. Bound periodicals do not circulate. Students should register for a Library Card which will be needed to take out library materials.

Hours: 7:45-5:00; 7:00-9:00—Monday, and Friday
7:45-5:00-5:00-9:30—Tuesday, Wednesday, and Thursday
7:45-5:00—Saturday
2:30-5:00—Sunday

Specific suggestions for the personal use of library materials may be found in the research manual which every graduate student is required to purchase.

Placement Service

Placement is a service offered by Indiana State College to its graduates without charge. The services of the Placement Bureau are available to students who received their Master's degree or who have been accepted as candidates for the degree in the Indiana Graduate Program. Graduate students wishing to take advantage of placement service should complete the necessary forms with the Director of Placement.

Laboratory School

The Laboratory School with an enrollment of 350 students from kindergarten through tenth grade provides an opportunity for graduate students to observe and to participate in problems relating to teaching.

Audio-Visual Center

The Audio-Visual Center provides graduate students with an excellent collection of films, filmstrips, and other audio-visual equipment. Students may learn how to use audio-visual materials through courses offered in this area.

History of the Graduate Program

Graduate work was inaugurated at Indiana State College in September, 1957.

The Graduate Program at Indiana offers work leading to the degree of Master of Education. A student may now complete the requirements for this degree by following any one of eleven programs. These programs offer majors in Business Education, Elementary Education, English, Geography, Guidance, Mathematics, Music Education,

Biological Science, Physical Science, Science, and Social Studies. The curriculums for these programs are explained in the following pages under the respective captions.

Admissions Policy for Graduate Study

Admission to the Graduate Study Program at Indiana is governed by the following policy which has been established by the Graduate Council:

1. The applicant must present a Bachelor's degree from a college or university that has been accredited by the Middle States Association of Colleges and Secondary Schools or the appropriate regional accrediting agency.
2. The applicant must present a transcript of his undergraduate work showing a 2.5 honor point value for all four years of his undergraduate work. The 2.5 assumes a grade of A to have 4 honor points per credit hour, a grade of B to have 3 honor points per credit hour, and a grade of C to have 2 honor points per credit hour. If the applicant's undergraduate record does not meet this 2.5 honor point value, or if he is a graduate of an unaccredited college, he may be admitted by making a satisfactory score on an entrance qualification examination.
3. The applicant must possess a Pennsylvania Teacher's Certificate or its equivalent. This implies that a student will have an undergraduate major in the field in which he wishes to work for the Master's Degree.
4. A satisfactory recommendation must be obtained from the applicant's undergraduate department or from qualified references.
5. Students applying for the degree in Music Education must present evidence of musical maturity in a formal audition before the Graduate Committee of the Music Education Department.

Admission to Graduate Study does not automatically mean that the student is a candidate for the Master's degree at Indiana. Admission to candidacy for the degree may be granted only after six or more hours of graduate work have been successfully completed at Indiana.

Steps Necessary for Admission to Graduate Study

1. The applicant will file an application for graduate work with the Dean of Graduate Studies. Write to Dr. I. L. Stright, Dean of Graduate Studies, for application forms.

2. Each applicant will present a transcript of all undergraduate work taken for the Bachelor's degree. Transcripts of previous work taken at Indiana need not be submitted.
3. Each applicant may be required to have a personal interview with the Dean of Graduate Studies or an assigned faculty member.

Admission to Candidacy for the Degree

The student should complete the following steps to qualify for admission to candidacy:

1. Submit an official application for admission to candidacy.
2. Submit a transcript of graduate work completed at other institutions.
3. Complete at least six semester hours of graduate work at Indiana.
4. Receive satisfactory course evaluations from the student's graduate instructors.
5. Submit a tentative program of study for the completion of the graduate program.

The application for admission to candidacy, the transcript of the graduate record, and the tentative program of study should be submitted by the student to the Dean of Graduate Studies. Acceptance to candidacy requires the approval of the Dean of Graduate Studies.

Semester Hours Required for the Degree

A minimum of thirty semester hours of approved graduate work beyond a Bachelor's degree is required. A well balanced, unified and complete program of study will be required regardless of the minimum credit requirement. Many students may find it necessary to earn more than the minimum number of credits before they will be regarded ready for the degree. Indiana State College is not committed to grant a degree upon the completion of thirty credits.

Full Time-Part Time Student

It is possible for a student to schedule a full time load in many of the approved programs. Ten to sixteen semester hours of work per semester is regarded a full time graduate schedule. Full time students should submit their proposed schedule for approval as early as possible. For part time students who are teaching, a maximum of four semester hours or two courses may be scheduled each semester. The number of semester hours of work obtained during summer sessions shall not exceed the number of weeks of attendance.

Time Limit

Thirty semester hours must be completed within the five-year period immediately preceding the date when all the requirements for the degree are completed. For justifiable reasons the Graduate Council may extend this period.

Residence

A minimum of ten semester hours will be required to be taken during summer sessions. Courses taken prior to September, 1957, at Indiana State College may not be used as graduate work.

Scholarship Requirement

A candidate must have maintained a grade point average of 3.0 B₊ in all work taken after receiving the Bachelor's degree. Only grades of "A", "B", or "C" are acceptable toward a Master's degree. Marking system: grade of "A", 4 quality points; "B", 3 quality points; "C", 2 quality points.

Permanent Certification Requirements

By action of the State Council on Education, all colleges certificates issued after October 1, 1959, will require the completion of at least twelve hours of post-baccalaureate work for permanent certification. This requirement will probably be increased in the future.

All teachers who are able to qualify for admission to a graduate program and who are able to profit by graduate work should be encouraged to do the work required for Permanent Certification in a Graduate Program in order that it may also be used toward a Master's degree.

When to Apply for Admission

Application forms for admission may be obtained from the Graduate Office. Applicants are urged to complete the necessary steps for admission as soon as possible. Check calendar on pages 4 and 5 for deadline dates. Write to Dr. I. L. Stright, Dean of Graduate Studies, State College, Indiana, Pennsylvania.

Scholarships

The Board of Trustees of the Indiana State College has authorized the college Loan and Scholarship Committee to divert some scholarship aid to meritorious graduate students. The following suggestions have been presented by the Loan and Scholarship Committee:

1. For the present that one \$50.00 scholarship be awarded each semester to that graduate student who best merits the award.
2. Three members of the Graduate Council serve as a committee to recommend the recipient to the Loan and Scholarship Committee.

3. Nominations for the award be made to the committee by the Dean of Graduate Studies.

4. To be eligible for nomination the student must have completed twelve semester hours of graduate work at Indiana and be an approved candidate for the Master of Education degree at Indiana.

Student Aid

Indiana is able to offer limited assistance in student aid through employment for those Graduate Students pursuing study on a full-time basis. For further information, contact the chairman of the department involved or the Dean of Graduate Studies.

Undergraduate Summer Program

Indiana State College maintains a comprehensive program of undergraduate instruction throughout the summer. Detailed information on the undergraduate program may be obtained by writing to the Dean of Undergraduate Studies for the Summer School Bulletin.

Veterans

Indiana is approved to offer training under the Korean G. I. Bill (Public Law 550) and Public Law 894 (disabled Korean veterans). Students who are entitled to training under one of these bills should contact the Veterans Counselor immediately after being accepted for admission to Indiana. The Office of the Veterans Counselor is in Room 101, Whitmyre Hall.

Auditors

Students not eligible to enroll for credit may enroll as auditors. Course fees are the same as for those enrolled for credit. Anyone qualified for admission is expected to apply formally for admission before requesting permission to enroll in any graduate class.

Housing Facilities

Room reservations can be made by writing to the Dean of Women. An advance registration deposit will not be required to reserve a room for summer sessions.

Students are not expected to room alone. Therefore, prospective students are urged to apply in pairs. In this way each student is assured a congenial roommate. Single applications are handled to the best possible advantage, but the college prefers that students make their own choices whenever possible. Applications for rooms are filed in the order in which they are received. Students are requested to write to the Dean of Women if there is any preference in rooms, and to indicate whether a room with or without water is desired. The college will give preferences to those whose reservation deposit has been paid in advance.

Men in the Indiana Graduate Program who desire housing facilities for the summer should write for information and reservations to the Dean of Men. All housing arrangements should be cared for as early as possible.

The housing fee, which includes room, board, and laundry, is \$16.00 per week.

Transfer of Credit

Six semester hours of graduate work taken at another accredited graduate school may be transferred to the Indiana Master's Degree Program. In all cases a request for transfer of credit must have approval of the Credit Evaluation Committee established by the Graduate Council.

Fees

(Subject to change without notice.)

Tuition Fee\$15.00 per semester hour

Tuition Fee for Music Education Students will be \$20.00 per semester hour for all courses except private instruction which will be charged at the rate of \$24.00 per semester hour.

Graduation Fee\$5.00

Activity Fee (charged in summer session only). The activity fee for the regular summer session is \$7.00, and \$2.50 each for the pre- and post-session.

Late Registration FeeUp to \$5.00 will be assessed a student who fails to complete registration, including payment of fees, on the dates and within the hours specified in the published procedure for registration for any particular semester or term.

Master's Cap and Gown FeeCandidates who have been accepted by the Graduate Division for the Master's degree are required to purchase or rent from the college bookstore a Master's cap and gown to be worn at the graduation exercises. The cap and gown rental fee is nominal.

Master's Hood FeeCandidates who have been accepted by the Graduate Division for the Master's degree are required to purchase or rent from the college bookstore a Master's hood to be worn at the graduation exercises. The Master's hood rental fee is nominal.

Thesis or Research Project Binding ExpenseThe binding of the required copies of the thesis or the research project is an expense which must be cared for by each graduate candidate. The current charge for binding a thesis is \$4.00 per copy and for binding a research project, \$1.00 per copy.

Refunds

The following policy has been adopted by the State Board of Presidents of the State Colleges to be effective June 1, 1961. Policy regarding refunds to graduate students - tuition fees: a. No portion of the tuition fee shall be refunded if the student has attended one-third or more than one-third of the class periods scheduled during a given semester or session. A graduate student is considered to be in class attendance up to the date on which he submits to the graduate office a written notice of his intent to withdraw. b. If a student withdraws from a course, for approved reasons, before one-third of the scheduled class periods have been completed, the student shall then be entitled to a **refund of one-half** of the tuition fees paid. At the present time the only approved reason is a health condition verified by a physician's statement.

Withdrawal from Classes

If a student decides to withdraw from a course before the middle of any semester or session, he may do so by notifying the Graduate Office in writing of his intent to withdraw. In this case a grade of W may be entered on the permanent record. A student withdrawing from a course after the middle of a semester or session will automatically receive an F. If withdrawal is caused by a health condition or for another approved reason, the grade may be indicated as incomplete and made up in accordance with an agreement between the instructor, student, and Dean of the Graduate Studies.

Programming and Registration

New applications for admission to the Indiana Graduate Program must be submitted in accordance with the calendar which appears in the beginning of this bulletin. Each graduate student also must submit to the Graduate Office a program of courses for approval for any given semester or summer session in advance of the time specified for registration and payment of fees.

Curriculum for Master of Education Degree

"The education of a teacher needs to be seen as a whole, for it is the final product which is important rather than the content of any one stage. The aim of the process is to produce men and women whose intellectual and cultural backgrounds are broad and deep, who know the material they are to teach and who can present it skillfully. The balance among the three factors in the objectives of a particular graduate student's program will vary with the candidate's previous background and to some extent in view of the age group and subjects he will teach, but none of the three may be neglected."¹

¹Document 472, Middle States Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education.

In each of the several programs leading to the Master's degree at Indiana, the student takes work in several categories. In the first category he must take at least 14 hours and may do up to 22 hours in Content Courses in the particular program in which he is working. In the Content Courses the student is expected to enrich and increase his knowledge in his subject area field.

A second is entitled Professional Studies in which he must complete from 4 to 10 hours of work. The work in this area is designed to supplement the Professional Studies of his undergraduate program and to increase the student's general knowledge of the teaching-learning process and of basic professional problems.

All students must take at least one course in the area of Foundations of Education. Courses in this area are designed to help the student realize the important place of public education in America.

Every student must complete the course entitled Elements of Research. Research plays an important part to the graduate student in any of the Indiana programs. The research training should enable the student to acquire the techniques of research as well as to be able to interpret and comprehend current research as it is applied to a teacher's particular position.

Objectives and Philosophy of the Graduate Program

The primary purposes of the Graduate Program at Indiana, which leads to the degree of Master of Education, are to increase the competence of the general classroom teacher; to stimulate a greater awareness of educational philosophies and problems in order that teachers may assume more responsible roles in the educational program of their communities; and to provide an incentive for continued professional growth. Probably the principal characteristic of the Indiana Graduate Program is its primary objective — to help good teachers become better teachers.

Student Responsibility

The graduate student is expected to know the requirements for the degree he plans to earn. While the officers and teachers of the Graduate Division will endeavor to aid in any way possible, the responsibility for any error in his own enrollment or in the interpretation of the requirements rests with the student.

Graduate Study in Reading

Elementary teachers interested in reading may apply six (6) semester hours of work in the area of professional studies in the Elementary Program. Junior and Senior High School teachers majoring in English may apply six (6) semester hours of work in the professional studies area in the English program. Reading will be written on the certificate valid for English when an applicant has completed a minimum of six (6) semester hours in developmental and remedial reading.

Normally a student will follow this sequence:

Elementary teachers will take Ed 533 as the initial course and then follow with Ed 534-535.

Secondary teachers will start with Ed 531 and follow with Ed 534-535.

CERTIFICATION OF GUIDANCE COUNSELORS

The following statement has been issued by the Department of Public Instruction, Bureau of Teacher Certification. These requirements became effective October 1, 1960. In Part C following each area the course or courses in the Indiana Graduate Program are listed. Provisional Certificate Qualifications:

- A. Must have at least a provisional certificate to teach; or a Master's degree from an approved school of social work plus an additional six semester hours of credit in the following areas:
 - 1. Principles of elementary or secondary education.
 - 2. Elementary or secondary school curriculum.
- B. Must have had two years of successful teaching, social work or professional counseling experience.
- C. Must have completed eighteen semester hours of graduate work distributed in the following areas:
 - 1. Philosophy and Principles of Guidance
Guid 531 Philosophy and Principles of Guidance
 - *2. Growth and Development of the Individual in Childhood and Adolescence
Guid 532 Psychology of Growth and Development
 - *3. The Study of the Individual
Guid 535 The Study of the Individual
Psy 532 Studies in Child Adjustment and Guidance
 - 4. Tests and Measurements
Guid 533—
534 Evaluative Methods in Guidance I, II
 - *5. Collecting, Evaluating and Using Occupational, Educational and Related Information
Guid 536 Occupational and Educational Information
 - 6. Administrative and Community Relationships
Guid 538 Organizing and Administering the Guidance Program
 - *7. Techniques Used in Counseling
Guid 537 Techniques in Counseling

*Required Areas — At least one (1) course is required in each.

8. Group Guidance

Guid 539 Group Guidance

9. Supervised Experience in Counseling

Guid 540 Clinical Techniques in Guidance

Guid 551 Individual Diagnosis in Guidance

Permanent Counselor Certificate Qualifications:

A. Must have a provisional counselor's certificate.

B. Must have had three years of successful counseling. This experience should consist of at least half-time each week spent in counseling duties in a public elementary or secondary school.

C. Provisional Counselor College Certificates issued after October 1, 1959, shall require for validation for the permanent form of the certificate the completion of Master's degree or its equivalent** in the field of school counseling and guidance.

Scope of Certificate for a Guidance Counselor:

This Certificate permits the holder to serve as a guidance counselor in all the grades of the public schools.

Advanced Graduate Study beyond Master's Degree

Students may find that more courses are offered that would be of benefit to them than they are able to include in their master's degree program. These students are encouraged to continue their training after receiving their master's degree and this additional training will be recognized by many school districts for salary purposes and by the Bureau of Teacher Certification for certification purposes. Students are advised, however, that most graduate schools have their own residence requirements and will probably not accept more than 30 credit hours or master's equivalent of graduate credit earned at Indiana toward the doctor's degree at their institution.

Appropriate certificates may be awarded to the student who completes an additional 15 or 30 credit hours beyond the master's degree. For purposes of this certificate these credits must be apportioned in a manner approved by the Dean of Graduate Studies.

INDIANA IN MEXICO

In the summer of 1962 the Division of Graduate Studies will re-establish its program of 1959 and 1960, "Indiana in Mexico." This program is designed to enable the student to spend six weeks in an important neighboring country, an intimate contact with an interesting and significant culture, blended from European and Indian sources. The participants in this program will normally devote half their time to an introduction to Mexican culture, past and present; beyond this core program they will choose from the following, in accordance with their individual interests:

**Master's Degree in Social Work.

See the Indiana Curriculum in Guidance.

CURRICULUMS FOR THE MASTER OF EDUCATION DEGREE

BUSINESS EDUCATION

Curriculum for Master of Education Degree

- I. General Studies — four to six (4-6) semester hours of work to be selected from the following:

| | | | |
|------|-----|-----------------------------------|--------|
| Art | 521 | Contemporary Movements in Art | 2 s.h. |
| EngS | 521 | Modern European Fiction | 2 s.h. |
| EngS | 523 | The Development of Modern English | 2 s.h. |
| Geog | 521 | Advanced Human Geography | 2 s.h. |
| Math | 521 | Basic Concepts in Mathematics | 2 s.h. |
| Sci | 521 | Recent Advances in Science | 2 s.h. |
| SS | 521 | Contemporary American Issues | 2 s.h. |
- II. Subject Matter Concentration Area — fourteen to sixteen (14-16) semester hours work in subject matter content to be selected from the following: A minimum of two areas are to be chosen.
 - A. Accounting — Prerequisite of twelve hours in Accounting

| | | | |
|-----|-----|--------------------------------------|--------|
| Bus | 500 | Accounting Systems and Management | 2 s.h. |
| Bus | 501 | Principles of Federal Tax Accounting | 2 s.h. |
| Bus | 502 | Advanced Tax Accounting | 2 s.h. |
| Bus | 503 | Financial Statement Analysis | 2 s.h. |
 - B. Secretarial — Prerequisite of nine hours in Shorthand

| | | | |
|-----|-----|--|--------|
| Bus | 510 | Business Communications and Report Writing | 2 s.h. |
| Bus | 511 | Advanced Shorthand for Teachers | 2 s.h. |
| Bus | 512 | Office Organization and Management | 2 s.h. |
 - C. Retailing — Prerequisite of six hours in Retailing

| | | | |
|-----|-----|------------------------------------|--------|
| Bus | 520 | Retail Organization and Management | 2 s.h. |
| Bus | 521 | Principles of Marketing | 2 s.h. |
 - D. Basic Business

| | | | |
|-----|-----|--|--------|
| Bus | 530 | Money and Banking | 2 s.h. |
| Bus | 531 | Principles of Investment in Securities | 2 s.h. |
| Bus | 532 | Current Business Economic Problems | 2 s.h. |
| Bus | 533 | Case Problems in Business Law | 2 s.h. |
| Bus | 534 | Consumer Economic Problems | 2 s.h. |
| Bus | 540 | Office or Retail Work Experience | 4 s.h. |
- III. Professional Studies — six to ten (6-10) semester hours including a research project.
 - A. General Area

| | | | |
|-----|-----|--|----------|
| Bus | 550 | Principles and Problems of Business Education | 2 s.h. |
| Bus | 551 | Administration and Supervision of Business Education | 2 s.h. |
| Bus | 552 | Seminar in Business Education | 2 s.h. |
| Ed | 516 | Statistical Methods in Education | 2 s.h. |
| Ed | 550 | Thesis | 2-4 s.h. |
 - B. Instructional Area — a minimum of two semester hours

| | | | |
|-----|-----|--|--------|
| Bus | 560 | Improvement of Instruction in Secretarial Courses | 2 s.h. |
| Bus | 561 | Improvement of Instruction in Basic Business Courses | 2 s.h. |
| Bus | 562 | Improvement of Instruction in Bookkeeping and and Business Arithmetic | 2 s.h. |
- IV. Foundations of Education — two (2) semester hours of work selected from:

| | | | |
|----|-----|--|--------|
| Ed | 511 | Historical Foundations of Education | 2 s.h. |
| Ed | 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed | 513 | Social Foundations of Education | 2 s.h. |
- V. Research Techniques — the following course is required. It should be scheduled early in the student's program:

| | | | |
|----|-----|----------------------|--------|
| Ed | 515 | Elements of Research | 2 s.h. |
|----|-----|----------------------|--------|

ELEMENTARY EDUCATION

Curriculum for Master of Education Degree

Students working for this degree in Elementary Education will complete the thirty (30) semester hours of work in accordance with the following divisions:

I. GENERAL STUDIES — fourteen to eighteen (14-18) semester hours of work in General Studies to be selected from the following courses:

| | | | |
|------|-----|--|--------|
| Art | 521 | Contemporary Movements in Art | 2 s.h. |
| Bus | 570 | Economic Backgrounds of Business | 2 s.h. |
| HE | 521 | Problems in Family Living | 2 s.h. |
| Mus | 521 | Music Literature and Materials | 2 s.h. |
| EngS | 521 | Modern European Fiction | 2 s.h. |
| Ed | 522 | Principles and Practices in Speech Improvement | 2 s.h. |
| EngS | 523 | The Development of Modern English | 2 s.h. |
| EngS | 524 | Contemporary Poetry | 2 s.h. |
| EngS | 525 | The Early English Drama | 2 s.h. |
| FL | 521 | Language and Society | 2 s.h. |
| FL | 522 | Applied Linguistics | 2 s.h. |
| Geog | 521 | Advanced Human Geography | 2 s.h. |
| HPe | 521 | Advanced Seminar in Health and Safety | 2 s.h. |
| Math | 521 | Basic Concepts in Mathematics | 2 s.h. |
| Sci | 521 | Recent Advances in Science | 2 s.h. |
| SS | 521 | Contemporary American Issues | 2 s.h. |
| SS | 561 | Social Policy Studies | 2 s.h. |

II. PROFESSIONAL STUDIES — eight to ten (8-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:

| | | | |
|-----|------|---|-------------|
| Ed | 516 | Statistical Methods in Education I | 2 s.h. |
| Ed | 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed | 534— | | |
| | 535 | Diagnosis and Remediation in Reading-Theory and Clinical Practice | each 2 s.h. |
| | | Thesis | 2to 4 s.h. |
| Ed | 550 | Curriculum Problems in Elementary Education | 2 s.h. |
| El | 531 | Reading Disabilities of Elementary School Children | 2 s.h. |
| El | 541 | Special Problems in Elementary Social Studies | 2 s.h. |
| El | 542 | Arithmetic in the Elementary School | 2 s.h. |
| El | 543 | Resource Materials in Elementary Science | 2 s.h. |
| El | 544 | Recent Trends in Elementary Language Arts | 2 s.h. |
| El | 545 | Experimental Studies in Art Education | 2 s.h. |
| El | 546 | Modern Procedures and Skills in Elementary Music | 2 s.h. |
| El | 547 | Resource Materials in Children's Literature | 2 s.h. |
| Psy | 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy | 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| Psy | 540 | Mental Hygiene | 2 s.h. |

III. FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:

| | | | |
|----|-----|--|--------|
| Ed | 511 | Historical Foundations of Education | 2 s.h. |
| Ed | 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed | 513 | Social Foundations of Education | 2 s.h. |

IV. RESEARCH TECHNIQUES — the following course is required. It should be scheduled early in the student's program:

| | | | |
|-----|-----|----------------------|--------|
| Ed. | 515 | Elements of Research | 2 s.h. |
|-----|-----|----------------------|--------|

ENGLISH

Curriculum for Master of Education Degree

Students working for this degree with a major in English will complete the thirty (30) semester hours of work in accordance with the following division:

I. SUBJECT MATTER CONCENTRATION AREA — sixteen to twenty-four (16-24) semester hours of work in subject matter content is to be selected from the following courses:

| | | |
|-----------|--|--------|
| EngS 510 | Bibliographical Methods in English [Required of all English majors after completing Ed 515, Elements of Research.] | 2 s.h. |
| EngS 512 | American English Grammar | 2 s.h. |
| EngS 521 | Modern European Fiction | 2 s.h. |
| EngS 522 | Chaucer | 2 s.h. |
| EngS 523 | The Development of Modern English | 2 s.h. |
| EngS 524 | Contemporary Poetry | 2 s.h. |
| EngS 525 | The Early English Drama | 2 s.h. |
| EngS 526 | Shakespeare and His Contemporaries | 2 s.h. |
| EngS 527 | Restoration and Eighteenth Century Drama | 2 s.h. |
| EngS 528 | Milton | 2 s.h. |
| EngS 529 | The Romantic Poets | 2 s.h. |
| EngS 530 | Tennyson and Browning | 2 s.h. |
| EngS 531A | Major Writers: Emerson, Thoreau, and Hawthorne | 2 s.h. |
| EngS 531B | Major Writers: Faulkner and Hemingway | 2 s.h. |
| EngS 531C | Major Writers: Hardy and Meredith | 2 s.h. |
| EngS 531D | Major Writers: Whitman and Twain | 2 s.h. |
| EngS 531E | Major Writers: Poe and Melville | 2 s.h. |
| EngS 533 | British Drama since 1880 | 2 s.h. |
| EngS 534 | Types of the Novel | 2 s.h. |
| EngS 535 | Criticism | 2 s.h. |
| EngS 536 | Tradition and Influence in Renaissance and Middle English | 2 s.h. |
| EngS 537 | Modern American Fiction | 2 s.h. |
| EngS 538 | Victorian Prose | 2 s.h. |
| EngS 539 | The Metaphysical Poets | 2 s.h. |
| EngS 540 | Twentieth Century American Drama | 2 s.h. |
| EngS 541 | The Rise of American Regionalism | 2 s.h. |
| EngS 542 | Contemporary British Novelists | 2 s.h. |
| EngS 543 | The Forms of Drama | 2 s.h. |
| EngS 544 | The Psychology of Language | 2 s.h. |
| FL 521 | Language and Society | 2 s.h. |

II. PROFESSIONAL STUDIES — two to eight (2-8) semester hours of work, including research project or the thesis, to be selected from the following:

| | | |
|----------|--|--------|
| EngS 511 | Seminar in the Teaching of English in the Secondary School | 2 s.h. |
| Ed 516 | Statistical Methods in Education I | 2 s.h. |
| Ed 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed 531 | Reading Problems of Junior and Senior High School Students | 2 s.h. |
| Ed 534 | Diagnosis and Remediation in Reading-Theory and Clinical Practice | 2 s.h. |
| Ed 550 | Thesis | 2 s.h. |
| Psy 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy 552 | Studies in Child Adjustment and Guidance | 2 s.h. |

English Curriculum Continued Next Page.

- III FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:
- | | | |
|--------|--|--------|
| Ed 511 | Historical Foundations of Education | 2 s.h. |
| Ed 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed 513 | Social Foundations of Education | 2 s.h. |
- IV RESEARCH TECHNIQUES: the following course is required. It should be scheduled early in the student's program:
- | | | |
|--------|----------------------|--------|
| Ed 515 | Elements of Research | 2 s.h. |
|--------|----------------------|--------|

GEOGRAPHY

Curriculum for Master of Education Degree

Students working for this degree with a major in Geography will complete the thirty (30) semester hours of work in accordance with the following divisions:

- I. SUBJECT MATTER CONCENTRATION AREA — fourteen to twenty-two (14-22) semester hours of work in subject matter content is to be selected from the following courses: 14 semester hours in Geography (minimum), 8 additional hours in Geography and/or related or applied courses to be approved by department

Geography Courses to be offered:

| | | |
|------------|-------------------------------------|-------------|
| Geog 521 | Advanced Human Geography | 2 s.h. |
| Geog 522 | Political Geography | 2 s.h. |
| Geog 523 | Urban Geography | 2 s.h. |
| Geog 525— | | |
| 540 | Seminars in Regional Geography | |
| | See Course Descriptions | each 2 s.h. |
| Geog 541 | Agricultural Geography | 2 s.h. |
| Geog 542 | Industrial Geography | 2 s.h. |
| Geog 550A— | | |
| 550B | Geographic Readings | 2 or 4 s.h. |
| Geog 552 | Seminar in World Resources | 2 s.h. |
| Geog 554 | Physiography of the United States | 2 s.h. |
| Geog 555 | Advanced Cartography | 2 s.h. |
| Geog 556 | Map and Photographic Interpretation | 2 s.h. |
| Geog 557 | Geographic Research | 2 s.h. |
| Geog 563 | Field Course in Geography | 2 s.h. |

Courses above 545 are not recommended for other than geography-social science or science majors.

- II PROFESSIONAL STUDIES — four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:
- | | | |
|----------|---|-------------|
| Ed 516 | Statistical Methods in Education I | 2 s.h. |
| Ed 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed 550 | Thesis | 2 to 4 s.h. |
| Psy 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| Geog 551 | Professional Problems in Geographic Education | 2 s.h. |
- III. FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:
- | | | |
|--------|--|--------|
| Ed 511 | Historical Foundations of Education | 2 s.h. |
| Ed 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed 513 | Social Foundations of Education | 2 s.h. |
- IV RESEARCH TECHNIQUES — the following course is required. It should be scheduled early in the student's program:
- | | | |
|--------|----------------------|--------|
| Ed 515 | Elements of Research | 2 s.h. |
|--------|----------------------|--------|

GUIDANCE

Curriculum for Master of Education Degree

Students working for this degree with a major in Guidance will complete the thirty (30) semester hours of work in accordance with the following divisions:

I. SUBJECT MATTER CONCENTRATION AREA — fourteen to twenty-two (14-22) semester hours of work in subject matter content is to be selected from the following courses:

| | | |
|-----------|---|--------|
| Guid 531 | Philosophy and Principles of Guidance | 2 s.h. |
| Guid 532 | Psychology of Growth and Development | 2 s.h. |
| Guid 533— | | |
| 534 | Evaluative Methods in Guidance I, II | 4 s.h. |
| Guid 535 | The Study of the Individual | 2 s.h. |
| Guid 536 | Occupational and Educational Information | 2 s.h. |
| Guid 537 | Techniques in Counseling | 2 s.h. |
| Guid 538 | Organizing and Administering the Guidance Program | 2 s.h. |
| Guid 539 | Group Guidance | 2 s.h. |
| Guid 540 | Clinical Techniques in Guidance | 2 s.h. |
| Guid 551 | Individual Diagnosis in Guidance | 2 s.h. |

II. PROFESSIONAL STUDIES — four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:

| | | | |
|-------|-----|--|-------------|
| *Ed | 516 | Statistical Methods in Education I | 2 s.h. |
| Ed | 517 | Statistical Methods in Education II | 2 s.h. |
| Ed | 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed | 550 | Thesis | 2 to 4 s.h. |
| **Psy | 531 | Psychology of the Exceptional Child | 2 s.h. |
| **Psy | 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| Psy | 533 | The Psychology of Personality | 2 s.h. |
| Psy | 540 | Mental Hygiene | 2 s.h. |
| Psv | 541 | Individual Psychometric Techniques: The Binet Scales | 2 s.h. |
| Psv | 542 | Individual Psychometric Techniques: The Wechsler Scales | 2 s.h. |
| Psy | 561 | Advanced Psychological Practicum | 1 to 4 s.h. |
| Psy | 562 | Measurement of Interest and Personality | 2 s.h. |

III. FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:

| | | | |
|----|-----|--|--------|
| Ed | 511 | Historical Foundations of Education | 2 s.h. |
| Ed | 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed | 513 | Social Foundations of Education | 2 s.h. |

IV. RESEARCH TECHNIQUES — the following course is required. It should be scheduled early in the student's program:

| | | | |
|----|-----|----------------------|--------|
| Ed | 515 | Elements of Research | 2 s.h. |
|----|-----|----------------------|--------|

*Ed 516 is required of all Guidance majors, and is a prerequisite for Evaluative Methods in Guidance.

**Psy 531 and Psy 532 might be used in lieu of some of the above where they have already been taken at the undergraduate level, and where all requirements of the Professional Area have been completed. They could not, however, be used to satisfy requirements in both areas where the credits overlap.

Note: The student should refer to the Course Description in the following section for prerequisites to the various courses in the Guidance Program.

MATHEMATICS

Curriculum for Master of Education Degree

Students working for this degree with a major in Mathematics will complete the thirty (30) semester hours of work in accordance with the following divisions:

- I. **SUBJECT MATTER CONCENTRATION AREA** — fourteen to twenty-two (14-22) semester hours of work in subject matter content is to be selected from the following courses:

ANALYSIS

| | | |
|----------|------------------------------------|--------|
| Math 526 | Fundamental Concepts of Analysis | 2 s.h. |
| Math 530 | Differential Equations | 2 s.h. |
| Math 531 | Advanced Calculus I | 2 s.h. |
| Math 532 | Advanced Calculus II | 2 s.h. |
| Math 533 | Infinite Series | 2 s.h. |
| Math 534 | Functions of a Complex Variable I | 2 s.h. |
| Math 535 | Functions of a Complex Variable II | 2 s.h. |
| Math 536 | Functions of a Real Variable | 2 s.h. |

ALGEBRA

| | | |
|----------|------------------------|--------|
| Math 560 | Foundations of Algebra | 2 s.h. |
| Math 561 | Modern Algebra I | 2 s.h. |
| Math 562 | Modern Algebra II | 2 s.h. |

GEOMETRY

| | | |
|----------|---------------------|--------|
| Math 571 | Modern Geometries | 2 s.h. |
| Math 572 | Projective Geometry | 2 s.h. |
| Math 573 | Topology | 2 s.h. |

ADDITIONAL COURSES

| | | |
|----------|----------------------------------|--------|
| Math 580 | Logic | 2 s.h. |
| Math 581 | Advanced Statistics | 2 s.h. |
| Math 582 | Theory of Probability | 2 s.h. |
| Math 583 | Linear Programming | 2 s.h. |
| Math 584 | Insights Into Modern Mathematics | 2 s.h. |

- II. **PROFESSIONAL STUDIES** — four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:

| | | |
|----------|---|-------------|
| Ed 516 | Statistical Methods in Education I | 2 s.h. |
| Ed 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed 550 | Thesis | 2 to 4 s.h. |
| Psy 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| Math 510 | Seminar in Mathematics I (Arith, Alg, and Inf. Geom.) | 2 s.h. |
| Math 511 | Seminar in Mathematics II (Sr. H. S. Mathematics) | 2 s.h. |

- III. **FOUNDATIONS OF EDUCATION** — two (2) semester hours of work to be selected from the following courses:

| | | |
|--------|--|--------|
| Ed 511 | Historical Foundations of Education | 2 s.h. |
| Ed 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed 513 | Social Foundations of Education | 2 s.h. |

- IV. **RESEARCH TECHNIQUES** — the following course is required. It should be scheduled early in the student's program:

| | | |
|--------|----------------------|--------|
| Ed 515 | Elements of Research | 2 s.h. |
|--------|----------------------|--------|

MUSIC EDUCATION

Curriculum for Master of Education Degree

Students working for this degree with a major in Music Education will complete the thirty (30) semester hours of work in accordance with the following divisions:

- I. GENERAL STUDIES — Four to six (4-6) semester hours of work to be selected from the following courses:

| | | |
|-----------|--|--------|
| Art 521 | Contemporary Movements in Art | 2 s.h. |
| EngS 521 | Modern European Fiction | 2 s.h. |
| EngS 531A | Major Writers (Emerson, Thoreau and Hawthorne) | 2 s.h. |
| EngS 531B | Major Writers (Faulkner and Hemingway) | 2 s.h. |
| SS 521 | Contemporary American Issues | 2 s.h. |
| SS 561 | Social Policy Studies | 2 s.h. |

- II. SUBJECT MATTER CONCENTRATION AREA — ten to twelve (10-12) semester hours of work in subject matter content is to be selected from the following courses:

| | | |
|------------|--|--------|
| * (Mus 501 | Advanced Choral Conducting | 2 s.h. |
| (Mus 502 | Advanced Instrumental Conducting | 2 s.h. |
| Mus 503 | Music Literature of the Baroque Era | 2 s.h. |
| Mus 504 | Music Literature of the 18th Century | 2 s.h. |
| * Mus 505 | Music Literature of the Early Romantic Era | 2 s.h. |
| Mus 506 | Music Literature of the Late Romantic Era | 2 s.h. |
| Mus 507 | Music Literature Since 1900 | 2 s.h. |
| Mus 511 | Composition | 2 s.h. |
| Mus 512 | Advanced Orchestration | 2 s.h. |
| * Mus 513 | Advanced Band Scoring | 2 s.h. |
| Mus 514 | Advanced Choral Arranging | 2 s.h. |
| Mus 515 | Canon, Double Counterpoint and Fugue | 2 s.h. |
| Mus 516 | Form and Analysis | 2 s.h. |
| Mus 530 | Music Criticism | 2 s.h. |
| * Mus 540 | | |
| 591 | Applied Music | 4 s.h. |

- III. PROFESSIONAL STUDIES — ten to twelve (10-12) semester hours of work, including the Thesis or Recital, to be selected from the following:

| | | |
|------------|--|-------------|
| Ed 516 | Statistical Methods in Education I | 2 s.h. |
| * Ed 550 | Thesis or Recital | 2 to 4 s.h. |
| Psy 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| * Mus 531 | Administrative Problems in Music Education | 2 s.h. |
| * Mus 532 | Seminar in Music Education | 2 s.h. |
| (Mus 533 | Comparative Choral Methods | 2 s.h. |
| * (Mus 534 | Comparative Instrumental Methods | 2 s.h. |
| Mus 535 | Psychology of Music Education | 2 s.h. |
| Mus 536 | Church Music | 2 s.h. |

- IV. FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:

| | | |
|--------|--|--------|
| Ed 511 | Historical Foundations of Education | 2 s.h. |
| Ed 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed 513 | Social Foundations of Education | 2 s.h. |

- V. RESEARCH TECHNIQUES — the following course is required. It should be scheduled early in the student's program:

| | | |
|--------|----------------------|--------|
| Ed 515 | Elements of Research | 2 s.h. |
|--------|----------------------|--------|

*These courses are required. Where bracketed, one course in that area is required.

BIOLOGICAL SCIENCE**Curriculum for Master of Education Degree**

Students working for this degree with a major in Biological Science will complete the thirty (30) semester hours of work in accordance with the following divisions:

I. SUBJECT MATTER CONCENTRATION AREA — fourteen to twenty-two (14-22) semester hours of work in subject matter content is to be selected from the following courses:

| | | |
|---------|--|--------|
| Sci 531 | Atomic Structure | 2 s.h. |
| Sci 532 | Interrelationships in Science | 2 s.h. |
| Sci 533 | History of Science, Scientific Literature, and Terminology | 2 s.h. |
| Sci 534 | The Solar Family | 2 s.h. |
| Sci 541 | — | — |
| 542 | Comparative Anatomy I, II | 4 s.h. |
| Sci 543 | — | — |
| 544 | Embryology I, II | 4 s.h. |
| Sci 545 | Microtechnique | 2 s.h. |
| Sci 551 | — | — |
| 552 | Taxonomy of Plants I, II | 4 s.h. |
| Sci 553 | — | — |
| 554 | Taxonomy of Animals I, II | 4 s.h. |
| Sci 555 | Principles of Plant and Animal Distribution | 2 s.h. |
| Sci 561 | Plant Structure | 2 s.h. |
| Sci 562 | Animal Physiology | 2 s.h. |
| Sci 563 | Physiology of Plants | 2 s.h. |
| Sci 564 | Problems in Biology | 2 s.h. |

II. PROFESSIONAL STUDIES — four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:

| | | |
|---------|---|-------------|
| Ed 516 | Statistical Methods in Education I | 2 s.h. |
| Ed 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed 550 | Thesis | 2 to 4 s.h. |
| Psy 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| Sci 510 | Problems in Science Education | 2 s.h. |

III. FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:

| | | |
|--------|--|--------|
| Ed 511 | Historical Foundations of Education | 2 s.h. |
| Ed 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed 513 | Social Foundations of Education | 2 s.h. |

IV. RESEARCH TECHNIQUES — the following course is required. It should be scheduled early in the student's program:

| | | |
|--------|----------------------|--------|
| Ed 515 | Elements of Research | 2 s.h. |
|--------|----------------------|--------|

PHYSICAL SCIENCE**Curriculum for Master of Education Degree**

Students working for this degree with a major in Physical Science will complete the thirty (30) semester hours of work in accordance with the following divisions:

I. SUBJECT MATTER CONCENTRATION AREA — fourteen to twenty-two (14-22) semester hours of work in subject matter content is to be selected from the following courses:

| | | |
|---------|-------------------------------|--------|
| Sci 531 | Atomic Structure | 2 s.h. |
| Sci 532 | Interrelationships in Science | 2 s.h. |

| | | | |
|-----|------|--|--------|
| Sci | 533 | History of Science, Scientific Literature, and Terminology | 2 s.h. |
| Sci | 534 | The Solar Family | 2 s.h. |
| Sci | 546— | | |
| | 547 | Biochemistry I, II | 4 s.h. |
| Sci | 548— | | |
| | 549 | Physical Chemistry I, II | 4 s.h. |
| Sci | 565— | | |
| | 566 | Advanced Inorganic Chemistry I, II | 4 s.h. |
| Sci | 567— | | |
| | 568 | Analytical Mechanics I, II | 4 s.h. |
| Sci | 569— | | |
| | 570 | Electricity and Magnetism I, II | 4 s.h. |
| Sci | 571 | Advanced Laboratory Practice | 2 s.h. |
| Sci | 572 | Demonstrations in Chemistry and Physics | 2 s.h. |

II. PROFESSIONAL STUDIES — four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:

| | | | |
|-----|-----|---|-------------|
| Ed | 516 | Statistical Methods in Education I | 2 s.h. |
| Ed | 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed | 550 | Thesis | 2 to 4 s.h. |
| Psy | 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy | 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| Sci | 510 | Problems in Science Education | 2 s.h. |

III. FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:

| | | | |
|----|-----|---|--------|
| Ed | 511 | Historical Foundations of Education | 2 s.h. |
| Ed | 512 | Philosophical Foundation of Education | 2 s.h. |
| Ed | 513 | Social Foundations of Education | 2 s.h. |

IV. RESEARCH TECHNIQUES — the following course is required. It should be scheduled early in the student's program:

| | | | |
|----|-----|----------------------------|--------|
| Ed | 515 | Elements of Research | 2 s.h. |
|----|-----|----------------------------|--------|

SCIENCE

Curriculum for Master of Education Degree

Students working for this degree with a major in Science will complete the thirty (30) semester hours of work in accordance with the following divisions:

I. SUBJECT MATTER CONCENTRATION AREA — fourteen to twenty-two (14-22) semester hours of work in subject matter content is to be selected from the following courses:

| | | | |
|-----|-----|-------------------------------------|--------|
| Sci | 531 | Atomic Structure | 2 s.h. |
| Sci | 532 | Interrelationships in Science | 2 s.h. |

Other courses to be selected from the major in Biology and Physical Science at discretion of candidate's committee, 14-22 s.h.

II. PROFESSIONAL STUDIES — four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:

| | | | |
|-----|-----|---|-------------|
| Ed | 516 | Statistical Methods in Education I | 2 s.h. |
| Ed | 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed | 550 | Thesis | 2 to 4 s.h. |
| Psy | 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy | 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| Sci | 510 | Problems in Science Education | 2 s.h. |

III. FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:

| | | |
|--------|--|--------|
| Ed 511 | Historical Foundations of Education | 2 s.h. |
| Ed 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed 513 | Social Foundations of Education | 2 s.h. |

IV. RESEARCH TECHNIQUES — the following course is required. It should be scheduled early in the student's program:

| | | |
|--------|----------------------|--------|
| Ed 515 | Elements of Research | 2 s.h. |
|--------|----------------------|--------|

SOCIAL STUDIES

Curriculum for Master of Education Degree

Students working for this degree with a major in Social Studies will complete the thirty (30) semester hours of work in accordance with the following divisions:

I. SUBJECT MATTER CONCENTRATION AREA — fourteen to twenty-two (14-22) semester hours of work in subject matter content is to be selected from the following courses: A minimum of 12 semester hours is to be elected in the Social Studies field. A maximum of four semester hours may be elected in allied fields (Geography, English, Foreign Language). Courses must be elected in four of the six Social Studies divisions.

HISTORY

| | | |
|--------|---------------------------------------|--------|
| SS 531 | Economic and Social Hist. of Penna. | 2 s.h. |
| SS 532 | U.S.-British Commonwealth Relations | 2 s.h. |
| SS 533 | Social and Intellectual Hist. of U.S. | 2 s.h. |
| SS 541 | Modern European Problems | 2 s.h. |
| SS 542 | Contemporary Latin American Problems | 2 s.h. |
| SS 543 | Modern Asian-African Problems | 2 s.h. |
| SS 544 | History Seminar | 2 s.h. |

ECONOMICS

| | | |
|--------|------------------------------|--------|
| SS 551 | International Economics | 2 s.h. |
| SS 552 | Comparative Economic System | 2 s.h. |
| SS 553 | Contemporary Economic Issues | 2 s.h. |
| SS 554 | Economics Seminar | 2 s.h. |

POLITICAL SCIENCE

| | | |
|--------|-------------------------------|--------|
| SS 571 | Foreign Policy Studies | 2 s.h. |
| SS 572 | Comparative Political Studies | 2 s.h. |
| SS 573 | Regional Political Studies | 2 s.h. |
| SS 574 | Political Science Seminar | 2 s.h. |

SOCIOLOGY

| | | |
|--------|----------------------|--------|
| SS 562 | Deviant Behavior | 2 s.h. |
| SS 563 | Intergroup Relations | 2 s.h. |
| SS 564 | Sociology Seminar | 2 s.h. |

PHILOSOPHY

| | | |
|--------|--------------------------------|--------|
| SS 581 | Problems in Logic | 2 s.h. |
| SS 582 | Problems of Ethics | 2 s.h. |
| SS 583 | American Philosophical Thought | 2 s.h. |
| SS 584 | Philosophy Seminar | 2 s.h. |

ANTHROPOLOGY

| | | |
|--------|-------------------------|--------|
| SS 591 | Studies in Anthropology | 2 s.h. |
| SS 592 | Comparative Cultures | 2 s.h. |
| SS 593 | The Science of Culture | 2 s.h. |
| SS 594 | Anthropology Seminar | 2 s.h. |

(Social Studies Curriculum Continued Next Page.)

II PROFESSIONAL STUDIES — four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:

| | | | |
|-----|-----|---|-------------|
| Ed | 516 | Statistical Methods in Education I | 2 s.h. |
| Ed | 518 | Seminar in Sensory and Audio-Visual Materials | 2 s.h. |
| Ed | 550 | Thesis | 2 to 4 s.h. |
| Psy | 531 | Psychology of the Exceptional Child | 2 s.h. |
| Psy | 532 | Studies in Child Adjustment and Guidance | 2 s.h. |
| SS | 510 | New Viewpoints in Social Studies Instruction | 2 s.h. |
| SS | 514 | Research Methodologies in the Social Sciences | 2 s.h. |

III FOUNDATIONS OF EDUCATION — two (2) semester hours of work to be selected from the following courses:

| | | | |
|----|-----|--|--------|
| Ed | 511 | Historical Foundations of Education | 2 s.h. |
| Ed | 512 | Philosophical Foundations of Education | 2 s.h. |
| Ed | 513 | Social Foundations of Education | 2 s.h. |

IV RESEARCH TECHNIQUES — the following course is required. It should be scheduled early in the student's program:

| | | | |
|----|-----|----------------------|--------|
| Ed | 515 | Elements of Research | 2 s.h. |
|----|-----|----------------------|--------|

RESEARCH REQUIREMENT FOR THE DEGREE

The candidate for the Master of Education degree at Indiana must satisfy the research requirement as established by the Graduate Council. This requirement is essentially that the candidate must conduct an independent study related to his major field and report on this study with a written thesis or research project or (in the case of music majors) a recital. The study may be in a subject field or in professional education. A thesis will carry from two to four hours of graduate credit as determined by the chairman of the thesis committee and the Dean of Graduate Studies. The Dean of Graduate Studies will apply the thesis credit to the student's program in the Subject Matter Concentration Area or in the area of Professional Studies depending on the nature of the topic selected. The research project does not carry graduate credit and, unlike the thesis or recital, may not be counted as part of the thirty semester hours required for the degree.

Purposes of the Research Requirement

The initiation, conduct, and description of a research study results in professional growth usually not attained in other ways. The completed thesis or research project certifies that the student is competent to identify a research topic and to pursue research in his field. An acceptable research report should show evidence that the student:

1. Has comprehended the essentials of his problem, has followed a well organized plan of work, and has presented satisfactory solutions.
2. Has made a comprehensive study of the related literature.
3. Has made an independent and intensive study of the problem.
4. Has a practical working knowledge of research procedures.
5. Has shown the ability to write in a professional style.
6. Has reached conclusions justified by the findings.
7. Has produced a report of value to the subject field or to professional education.

Distinction Between a Thesis and Research Project

The basic distinction between a research project and a thesis is as follows: the project must make a contribution to the student by helping him to improve his teaching or other educational activity; the thesis, in addition, should contribute new knowledge to the field of study.

The project need not represent original research and may consist of adapting other findings to the student's local situation or of repeating other investigations in different circumstances. The thesis, however, should make a contribution to the student's field of inquiry — a far more rigorous condition than that established for the project.

Minor distinctions may be made with regard to the extent or scope of the study and the level of research competence needed to accomplish the study, but these are distinctions subordinate to the basic one given above. Deciding if a particular activity is of a thesis or project nature is primarily the responsibility of the student's adviser who must determine if the study will truly contribute to the field or if it will adapt available data to new situations.

Steps in Satisfying the Research Requirements

1. The course "Elements of Research," Ed 515, is designed to help students plan their research. Since many studies require considerable time for completion, it is desirable to schedule Ed 515 early in the graduate program, although it is helpful if the student has completed some work in the major field first. As part of the requirements for Ed 515, the student will prepare a written plan for the investigation of a problem, or research proposal.
2. The student should discuss his proposed research with his adviser and the Director of Research. The student, with the approval of his adviser, should decide on a research project, thesis or recital. Formal approval of the topic may not be obtained until the student has been accepted as a degree candidate (see Admission to Candidacy for the Degree - page 13).
3. The student submits the research proposal to his adviser or the Graduate Office and secures formal approval of the proposal. A research project proposal requires the approval of the adviser, the Director of Research, and the Dean of Graduate Studies. A thesis or recital proposal requires the approval of the committee and the Dean of Graduate Studies. A thesis committee will normally consist of the adviser, the chairman of the major department, the Director of Research, and at least one other faculty member.
4. After securing formal approval of his research proposal, the student should conduct his investigation and begin writing his report as soon as possible. The adviser and Director of Research should be kept informed of the progress of the study. A rough draft of the project or thesis should be submitted for review well in advance of the deadline date for the final draft.
5. The deadline date for final draft of the project or thesis or for the recital performance for January graduates is the preceding December 1; for May graduates April 1; and for August graduates July 1. The final draft should be typed and be as free from errors as the student is able to make it. Only

minor corrections will be permitted after the deadline date and in the event major revision is required which cannot be completed before this date, the student will be required to postpone graduation. When the final draft has been approved, the student will be given instructions for preparing the finished copies of the project or thesis. A project must be approved by the adviser, the Director of Research, and the Dean of Graduate Studies. A thesis or recital must be approved by the student's committee and the Dean of Graduate Studies.

6. The finished copies of the project or thesis, together with the required abstracts, must be submitted prior to commencement. The style and format of the finished copies must conform to the style manual and additional instructions adopted by the Division of Graduate Studies.

The Advisory System

The purpose of the advisory system is to insure that the student's work follows a coherent, well-balanced, and unified program for his professional growth and development. The advisory responsibility falls into two parts:

1. Prior to admission to candidacy: At this stage the advisory function is essentially the responsibility of the Dean of Graduate Studies and includes the following:

- a. To assist the student in preparing his plan of graduate study.
- b. To recommend the student for admission to candidacy upon completion of the necessary requirements.
- c. To aid the student in the selection of an adviser for completion of degree requirements after he is accepted for candidacy.
- d. To encourage the student to attend seminars for the discussion of the nature of the graduate program.

2. After acceptance of candidate for the degree: The graduate student will be assigned, or may choose with the approval of the Dean of Graduate Studies, a faculty adviser to assist him in his graduate work. Necessary changes in advisers may be made at the discretion of the Dean of Graduate Studies. This adviser should be competent in the student's area of specialization, as his primary responsibility is to assist the student in choosing, preparing, and presenting his thesis or project in oral and written form as a demonstration of professional competence.

DEPARTMENT INSTRUCTIONS AND COURSE DESCRIPTIONS

ART

Art 521 Contemporary Movements in Art

Current philosophies and trends in fine arts and art education as they apply to human growth and development will be studied. Research and round table discussion of contemporary art forms will help the student to discover the concepts involved in art expression and how they evolved.

El 545 Experimental Studies in Art Education

(See Elementary Education)

BUSINESS EDUCATION

The graduate program in Business Education at Indiana is primarily designed to permit teachers to broaden their understanding of the business world and to have an opportunity to study their teaching procedures in the light of experiences they have gained.

A study of the curriculum being offered indicates that from fourteen to sixteen credit hours are to be taken in the subject matter concentration area. Students should avail themselves of the opportunity to select many of the large offering of courses in the basic business area along with a choice of at least one of the areas concerned with either accounting, secretarial, or retailing.

It would seem advisable in scheduling that those courses in the subject matter concentration area should be scheduled early and taken first, making use of those courses in the general studies and foundation of education as they can be fitted into one's schedule as his work progresses. The course in Elements of Research should be taken after one has gotten started but not delayed too long. A suggestion would be to take the course after having had six hours of graduate work and no more than ten hours. It is usually while taking this course that plans for a project or thesis are made and getting started on this part of one's work should not be delayed.

When a tentative research problem has been chosen, immediate steps should be taken to have an advisor assigned through the joint direction of the Dean of Graduate Studies and the Chairman of the Department. It might be well to note at this point that everyone must do a project, which carries no credits, or an original research which can vary in credit value from two to four credits.

Bus 500 Accounting Systems and Management

A study of the accounting principles as applied in constructing accounting systems. Special attention will be given to the problems of management as they relate to accounting systems. This is to be done with the idea of building a system to give management the information desired for effective operation of the business.

Bus 501 Principles of Tax Accounting

The fundamentals of Federal Income Tax Accounting are presented under the latest amendments to the Internal Revenue Code. The various income tax blanks and forms are presented and filled in with special emphasis upon the returns of individuals, single proprietorships and partnerships.

Bus 502 Advanced Tax Accounting

This course is designed to give the student further familiarity with the Federal Income Tax law with emphasis upon the law concerning corporate returns, estates and trusts, federal estate tax and gift tax. Bus 501 is a prerequisite to taking this course.

Bus 503 Financial Statement Analysis

This course is designed to give a detailed analysis and interpretation of financial statements with advanced problems supporting the theory presented. Particular types of statements as they apply to public utilities, industrials, and moneyed corporations are introduced.

Bus 510 Business Communications and Report Writing

A study and composition of effective written communications. Emphasis on the positive approach, clear statements, and good form and structure. The organization and preparation of reports of the types used in education, business and government. Techniques of collecting, interpreting, and presenting information useful to executives will be studied.

Bus 511 Advanced Shorthand for Teachers

To provide teachers of stenography and transcription with an opportunity to increase their proficiency in writing and transcribing Gregg shorthand, thus enabling them (1) to demonstrate skills in the classroom, and (2) to analyze student learning difficulties, to review the basic techniques of skill development; to provide practice in rhythmic and office style dictation; to increase ability to take sustained dictation by use of modern teaching aids including tapes and records; and to enable the teacher to write fluent shorthand outlines in dictation at the chalkboard.

Bus 512 Office Organizations and Management

Duties and responsibilities of the office manager, principles of practical office management and their application. Includes survey and analysis development of manuals and their use; selection, training, pay and promotion of office employees; controlling expense and measuring office efficiency; quality and quantity standards; purchase and use of equipment; and report writing.

Bus 520 Retail Organization and Management

This course will be directed toward the many problems of retail management. It will include a study of the present day trends in retailing, personnel management, merchandise control, pricing, promotion, services, accounting, and expense control.

Bus 521 Principles of Marketing

A study of the risks, costs, and methods in the distribution of goods of farm and industry. A comprehensive analysis of such problems as research, competition, pricing, and laws in marketing goods from the manufacturer or producer to the consumer.

Bus 530 Money and Banking

The course deals with the development of the monetary system of this country with particular attention to its present structure of our banking system. Relationship between our monetary system and our economy, means of control of our monetary system and the function and structure of the Federal Reserve System will be considered.

Bus 531 Principles of Investment in Securities

It is the purpose of this course to familiarize the student with the many forms of investment possibilities which exist. Attention will be given to the operation of the stock markets, concepts and terminology of investing, mutual funds and their function, investment clubs and the problems involved in making investments through brokers, bankers, and stock promoters.

Bus 532 Current Business Economic Problems

Selected economic problems of current interest and concern to society will be analyzed. An examination will be made of basic economic principles and theories as well as the thinking of recognized economists in connection with the problems studied.

Bus 533 Case Problems in Business Law

It is to be assumed that the student has a knowledge and background of the theory of business law prior to taking this course. The course deals with the solution of case problems as applied to the various topics in the field of business law.

Bus 534 Consumer Economic Problems

A program for the education of intelligent consumers is planned for this course. How to gain the maximum satisfaction from goods and services available to the consumer is an important consideration. An effort will be made to develop an appreciation of the problems of the producer, distributor as well as those of the consumer.

Bus 540 Office or Retail Work Experience

The graduate student who has not had extensive business experience is given the opportunity to work full-time for six weeks during the summer in a business position under the supervision of the college. Evening seminars will be held weekly to discuss problems related to the work experience program. A written report of the experience will be required.

Bus 550 Principles and Problems of Business Education

The purpose of this course is to survey the basic principles and practices of business education. Among the topics considered are: history of the high school business program, purposes, attitudes of management and labor toward education, the relationship of general education to business education, and trends in the field.

Bus 551 Administration and Supervision of Business Education

This course offers an opportunity to study the problems of organizing, directing, and supervising business education programs. Such matters as the functions of the administrator and supervisor of business education, textbook selection, teacher selection, testing programs, conferences, equipment and layout are considered.

Bus 552 Seminar in Business Education

This course is devoted to a critical examination and evaluation of current literature and research in business education. The graduate student is expected to conduct an extensive study of literature representative of the entire field of business and an intensive study in one or more specialized areas compatible with his professional interests and activities. Investigation of procedures used in current and outstanding research studies is emphasized.

Bus 560 Improvement of Instruction in Secretarial Courses

A course for experienced business teachers. Teaching procedures basic to the development of vocational proficiency in shorthand, typewriting, and transcription including: content; methods; teaching aids; available instructional materials; measurement of skills; and standards of achievement.

Bus 561 Improvement of Instruction in Basic Business Courses

This course is designed for experienced classroom teachers and for prospective teachers specializing in the basic business subjects. It deals with the aims of business education; its relation to vocational and general education; available instructional materials; curricular organization; teaching aids and devices; techniques for improving instruction; and other teaching problems of such subjects as Junior business training or general business, economic geography, business law, consumer education, salesmanship, and business economics.

Bus 562 Improvement of Instruction in Bookkeeping and Business Arithmetic

A study of problems and techniques in the teaching of bookkeeping and arithmetic for experienced and prospective business teachers. Topics include: objectives; the place of bookkeeping and arithmetic in the curriculum; plan-

ning for teaching; techniques for improving instruction; resource materials standards; construction of courses to meet special needs; the use of practice sets; testing and grading; and visual aids. Teaching problems of students will be emphasized.

Bus 570 Economic Backgrounds of Business

This course is designed to provide a thorough overview of the economic environment in which business and other agencies must operate. The student will gain a broad perspective of business operations through such topics as business organization and management, consumption of goods, business risks, the business cycle, budgeting and investments. This course is not open to Business Education Majors, but is designed for a general studies course in the Elementary and other programs.

EDUCATION

Ed 511 Historical Foundations of Education

A study of the historical development of American education. European influences on the philosophies and practices of American schools will serve as a background for the course. Emphasis will be placed on the development of education in America as influenced by various individuals and schools of thought. Historical trends will be related to current problems and practices in education.

Ed 512 Philosophical Foundations of Education

The development of principles upon which to base instruction, recent developments in scientific methodology, and theories of curriculum and school organization will be considered in this course. Stress will be placed upon the essential phases involved in building an individual working philosophy of education.

Ed 513 Social Foundations of Education

This course will deal with those social and cultural forces which influence education and the ways in which education has been affected by them. Particular stress will be placed upon current problems as they relate to the entire educational system and to curricular problems and practices in today's schools.

Ed 515 Elements of Research

Selection of a research problem, collection of data, types of research, the research report, and the use of the library in connection with the research problems will be studied. Elements of statistics are introduced. This course provides background for the preparation of the thesis or research project, and enables the student to become an intelligent consumer of the products of educational research.

Ed 516 Statistical Methods in Education I

Consists of measurement and statistical techniques as used in teaching, school administration, and common educational research. The basic descriptive statistics, including measures of central tendency, variability, and correlation will be developed. The reliability and validity of test scores will also be discussed. Emphasis will be placed upon the use of the statistical techniques studied and their interpretation.

Ed 517 Statistical Methods in Education II

Advanced statistical devices for educational research workers. The basic concepts of statistical inference and prediction will be developed, including regression and prediction, hypothesis testing, analysis of variance, and partial and multiple correlation. Emphasis will be placed upon the use and interpretation of the techniques studied. Prerequisite: Education 516.

Ed 518 Seminar in Sensory and Audio-Visual Materials

This is a psychology of learning course. Major emphasis will be placed upon the differences among learning, materials, learners and teaching methods. The student will have the opportunity to do literary research in these areas.

Ed 522 Principles and Practices in Speech Improvement

This course will provide for a study of the normal development of speech, classroom methods in speech improvement, and special consideration for children handicapped in speech or hearing. Library research, project work, demonstrations and experimentation will be heavily stressed.

Ed 531 Reading Problems of Junior and Senior High School Students

This course is planned to help the secondary or special teacher to understand and participate in the developmental reading program at the Junior and Senior High School levels, and to work with those pupils who are not able to achieve satisfactorily because of reading problems.

Special help is given in the basic reading and study skills, the diagnosis and correction of reading difficulties, the techniques of improving rate and comprehension, and the development of readiness for reading in the content field.

Ed 534-535 The Diagnosis and Remediation in Reading-Theory and Clinical Practice

This course deals with understandings, techniques, and materials that aid teachers to prevent, discover, and correct the weaknesses and wrong learnings in reading of the student who is not achieving satisfactorily. The instruments for study will include a variety of tests, informal evaluations, and other helps. All areas and all levels of reading are considered. This involves two (2) courses each offering two (2) semester hours credit. Prerequisite: Course(s) in Reading — Undergraduate, El 533 or Ed 531.

Ed 540 Supervision of Student Teaching

Designed for supervising teachers and others working with student teachers, this course provides opportunity for the development of pertinent materials and for continuous evaluation of various aspects of the student teaching program. Stress is also given to evaluative procedures used in working with prospective teachers. Basic principles underlying an effective student teaching program are examined from both a theoretical and applied viewpoint. Prerequisite: Teaching certificate and teaching experience.

Ed 550 Thesis or Recital

Students writing a thesis for credit will register for this course.

Recital: Graduate students in music education may prepare and perform a formal recital under the guidance of their private teacher in their major performing area. Approval for the presentation of a recital in lieu of the thesis must be secured from the graduate committee of the Music Education Department. A student should secure approval for this event early in his graduate program, but the actual performance of the recital should occur close to the end of his graduate program.

ELEMENTARY**El 531 Curriculum Problems in Elementary Education**

The curriculum will be studied in relation to local needs and resources. Special attention will be given to contemporary forms of organization and procedures for curriculum development. A student will concentrate his studies on a specific problem or area of interest.

El 533 Reading Disabilities of Elementary School Children

This course will consider the identification, causes, and correction of reading disabilities. The mechanics, psychology of reading, and emotional factors involved will be studied.

Ed 541 Special Problems in Elementary Social Studies

The content of the social studies in the elementary school as it contributes to world understanding and the American cultural heritage will be included in this course. Each student will concentrate his studies on a special problem or area of interest.

Ed 542 Arithmetic in the Elementary School

An overview of the development of arithmetic as a part of the elementary school curriculum will be presented. It will emphasize curriculum development based upon research in arithmetic, special problems in the teaching of arithmetic and the literature which should be known to a teacher of arithmetic. Prerequisite: The Teaching of Arithmetic.

Ed 543 Resource Materials in Elementary Science

This course is designed to give the elementary teacher experience with the literature, equipment, and materials used in teaching science in the elementary school. References dealing with experiments, demonstrations, and identification of plants and animals will be studied. Experiments and demonstrations will be emphasized. Science kits will be prepared which contain basic equipment that may be used in classroom situations. Field trips will be taken to observe materials in real life situations. Given in summer school only.

Ed 544 Recent Trends in Elementary Language Arts

This course will deal with trends, problems, and recent contributions of research in the language arts. Areas will include elementary English, spelling, penmanship, and children's literature. Each student will concentrate his studies on a special problem or area of interest.

Ed 545 Experimental Studies in Art Education

Teachers will undertake art experiences in various media as they are adapted to the provision of art experiences for the child. Emphasis will be placed on the stages of growth, type of motivation, and ways of administering stimuli. The class will study the exceptional child to learn to recognize and encourage evidences of art potential as well as wholesome self-expression.

Ed 546 Modern Procedures and Skills in Elementary Music

The purpose of this course is to provide the elementary teachers with new developments and techniques recommended for music education.

Ed 547 Resources Materials in Children's Literature

This course will be concerned with the selection and evaluation of children's literature as a resource for teaching and learning. Although traditional and modern literature in prose and poetry will be considered, much emphasis will be given to non-fiction. Ways will be studied to use these materials in the elementary school program.

ENGLISH

A candidate for a degree in English should plan to work on his research topic while he is completing other course requirements. Following Ed 515, Elements of Research, which should be taken early in the degree program but not as a first course, he should enroll in EngS 510, Bibliographical Methods in English, in order to develop his thesis or project proposal. The thesis document itself, which will be completed independently after the proposal has been approved, will be granted no more than two hours' credit. A project is granted no course credit even though it satisfies a requirement for the degree.

EngS 510 Bibliographical Methods in English

This course offers the student practical training in the special methods and materials of research in English. Required of all majors in English. Ed 515, Elements of Research, is a prerequisite.

EngS 511 Seminar in the Teaching of English in the Secondary School

A seminar to explore the recent developments in the teaching of high school English. Open only to those holding a certificate to teach English.

EngS 512 American English Grammar

In this course a study is made of the analysis of language patterns by the methods of structural linguistics. Study is also made of the principles for establishing levels of usage. Both areas are examined for implications in the teaching of English.

EngS 521 Modern European Fiction

This course offers an intensive study in translation of the major fiction writers of the twentieth century exclusive of British and American. The older generation — Proust, Gide, Kafka, and Mann — will be studied in relation to representatives of contemporary Europe such as Camus, Moravia, Silone, and Sartre.

EngS 522 Chaucer

The works of Geoffrey Chaucer are studied with special attention to the *Canterbury Tales* and *Troilus and Criseyde*. Pronunciation, versification, language, and textual problems will receive consideration.

EngS 523 The Development of Modern English

The course will study the origins and growth of the English language and the sources of English words. An examination will be made of the changes in English usage, with emphasis on the varieties of current spoken and written usage as a result of geographical, class, and situational differences.

EngS 524 Contemporary Poetry

The course is concentrated in tendencies in modern poetry from Thomas Hardy and E. A. Robinson to the present, with special attention to major figures British and American. Emphasis is placed upon appreciation of the poet's technique and an understanding of the contemporary scene as it supplies inspiration and determines theme.

EngS 525 The Early English Drama

The development of the English drama from 900 to 1500, with attention to classical and indigenous influences on specific plays and types of plays, will be studied.

EngS 526 Shakespeare and His Contemporaries

Plays by Shakespeare and some of his predecessors, contemporaries, and successors will be read. Plays will be chosen from the work of Marlowe, Lyly, Greene, Kyd, Jonson, Dekker, Beaumont, Fletcher, Webster, and Shakespeare.

EngS 527 Restoration and Eighteenth Century Drama

The British theatre from the Restoration period to Sheridan is studied in connection with the literary, historical, and social developments of the times.

EngS 528 Milton

This course provides for special studies in the prose and poetry of John Milton, with attention paid chiefly to *Paradise Lost* and the lyrics.

EngS 529 The Romantic Poets

This course will concentrate on the poetic values, religious conflicts, and social issues that affected the writings of the major Romantic poets. Practice will be given in analyzing form and tone as a guide to meaning.

EngS 530 Tennyson and Browning

This course provides for special studies in the poetry of Tennyson and Browning. Attention is given to the Victorian milieu and to the development of Tennyson's and Browning's philosophy as it is reflected in their work.

EngS 531A Major Writers: Emerson, Hawthorne, and Thoreau

Emphasis is on a discussion of the ideas developed in *Walden*, *A Week on the Concord and Merrimack Rivers*, Emerson's *Essays*, *First and Second Series*, and several of Hawthorne's novels, as well as some of the shorter writings. Each student is responsible for investigating one particular area of comparison among the writers.

EngS 531B Major Writers: Faulkner and Hemingway

This course considers the novels and short stories of William Faulkner and Ernest Hemingway, with attention to each writer's influence on modern fiction.

EngS 531C Major Writers: Hardy and Meredith

Special studies are conducted in the poetry and fiction of two major writers of the late nineteenth century.

EngS 531D Major Writers: Whitman and Twain

The course considers these writers in relation to the development of realism in American Literature. The poetry and prose of Whitman are studied intensively. Students read selected novels and short fiction by Twain.

EngS 531E Major Writers: Poe and Melville

The course deals with romantic elements and symbolism in the fiction and poetry of Poe and Melville's major writings. Attention is also given to the influence of each writer on later fiction.

EngS 533 British Drama Since 1880

The modern temper in British drama is explored through modern British dramatists such as Pinero, Barrie, Milne, Maugham, Galsworthy, Priestly, Shaw, and some of the Irish dramatists.

EngS 534 Types of the Novel

Standards are established for such genres of the novel as the Historical Romance, the Novel of Ideas, the Novel of Manners, and Satiric Fantasy. English and American novels are read in several of these categories.

EngS 535 Criticism

This is a course in the principles of literary criticism. Attention will be paid to major works of critical theory and to practice in the application of these principles.

EngS 536 Tradition and Influence in Renaissance and Middle English

This course is a seminar in which a major sociological or ideological tradition of the middle ages and renaissance will be studied to reveal its influence upon the literature of those periods. Among the areas of learning and tradition which may be considered are the chivalric code: courtly love and love melancholy; Greek, Roman, and Hebrew literature and mythology, and medieval science and medicine.

EngS 537 Modern American Fiction

Trends in contemporary American fiction provide a basis for special studies in such figures as Dreiser, Anderson, Fitzgerald, Lewis, Dos Passos, and Wolfe.

EngS 538 Victorian Prose

This course examines the major social, political, economic, and religious issues as revealed in the prose writings of the period.

EngS 539 The Metaphysical Poets

The characteristic lyric poets of the seventeenth century from Donne to Cowley are studied in relation to changing social and political conditions.

EngS 540 Twentieth Century American Drama

The contributions of the major dramatists of the twentieth century to the development of the American theater are considered.

EngS 541 The Rise of American Regionalism

This course considers writers who drew their materials from the culture peculiar to a particular area. Such local colorists as Page, Harte, Harris, and Jewett are read.

EngS 542 Contemporary British Novelists

This course deals with the novels of Joyce Cary, Graham Greene and Evelyn Waugh. It relates their work to trends in current British fiction.

EngS 543 The Forms of Drama

A study of the structure of the play and the elements of action, theme, and character are studied in representative plays of various periods and cultures.

EngS 544 Seminar in the Psychology of Language

Individual investigation is encouraged in this seminar into the research in language as behavior.

FOREIGN LANGUAGES**FL 521 Language and Society**

The work of this course is designed to inform the student as to the salient facts of language and its fundamental role in the development and continuity of society and culture. Some points considered are: language families and their characteristics, factors of linguistic change and development, reciprocal influences of culture and language, linguistic borrowing, language and religion, and systems of writing.

FL 522 Applied Linguistics

This course makes specific application to one language of the major principles of FL 521, Language and Society. The chosen language is examined in terms of family, structural type, development, the culture of which it is a vehicle, the influences it has undergone and exercised, and its role in the world today. Constant comparisons and contrasts are made with English. The course will constitute an introduction to the chosen language—Russian in 1962-63—but linguistic considerations will receive major stress. Prerequisite: FL 521, Language and Society.

GEOGRAPHY

The pursuit of a Master of Education degree with a major in Geography presupposes that certain subjects normally included in the undergraduate major in geography have been successfully completed. The department, however, will accept outstanding applicants with limited background in Geography with the understanding that deficiencies will be made up, either through extra course work or through a personal reading program.

The Department regards as one of its major functions instruction in Geography as part of the School's program for liberal education. As such, certain courses are offered to students having limited backgrounds in geography (Geog 500-549). The minimum requirement for entering these courses is undergraduate World Geography. (Geog 111).

A new program in Geography has been initiated in cooperation with the University of Jalapa in Jalapa Enriquez, Mexico. This program is designed to give the geography student opportunity to live in, and personally observe the geography of Mexico.

Geog 521 Advanced Human Geography

Advanced Human Geography will develop case studies of particular regions in various parts of the world and will analyze, where appropriate, the effect of geography on major events in the news. The course builds onto the principles of geography learned in undergraduate World Geography.

Geog 522 Political Geography

Geographic factors and conditions are analyzed as they are related to the character and function of states. Political institutions are evaluated in light of modern and historic geographic conditions. Emphasis is given to the great world powers and geopolitical thought.

Geog 523 Urban Geography

An analysis is made of city types, patterns, and functions as influenced by geographic conditions and other factors. City planning techniques and field study are utilized.

Geog 525-540 Geography Seminars

Seminars are designed to let the student develop to his greatest potential. Each region is examined in detail for soil, topography, climate, vegetation, population, and the interrelationships evolved. Great stress is placed on individual study and class discussion rather than lecture. Prerequisite: World Geography (undergraduate).

Geog 525—Africa, South of the Sahara

Geog 526—India, Pakistan and Indo-Chinese Peninsula

Geog 527—Mexico, Middle America and West Indian Islands

Geog 528—South America

Geog 530—U.S.S.R.

Geog 531—Northwestern Europe

Geog 532—Mediterranean World

Geog 534—China, Korea and Japan

Geog 535—Australia and Pacific Islands

Geog 536—Polar Regions

Geog 537—Eastern United States

Geog 538—Western United States

Geog 539—Canada

Geog 541 Agricultural Geography

World agricultural patterns are the core of this course. Specific problems will be studied in view both of the countries involved and world environment. Stress will be placed upon individual study and research as well as classroom lecture.

Geog 542 Industrial Geography

Resources useful in the manufacturing process will be studied both as to their location and their place in the international exchange patterns of the world. Individual problems will be the core of the course placing great emphasis on research and reading.

Geog 550A-550B Geographic Readings in Geography (offered every semester on an individual basis by arrangement made through the head of the department)

550A consists of wide readings in the field of geography. Emphasis is upon the classics in the field. Study will be individual and will help the student become critical in his reading and study.

550B consists of reading upon a particular topic or region. Emphasis is upon knowledge and understanding of the selected area of study. Study will be individual and will help the student become more expert with a small area of learning.

Geog 551 Professional Problems in Geographic Education

Classroom problems and discussions centered about "New Viewpoints in Geography" constitutes the core of this course. Individual reports, group discussion and research will constitute the principal methods of presentation.

Geog 552 Seminar in World Resources

World resource exploitation and utilization of the agricultural, mineral, forestry, and fishery industries are treated. Problems, such as energy utilization, food distribution, population growth, regional planning, factory location, conservation measures, and foreign trade, are considered.

Geog 554 Physiography of United States

This course presents a detailed study of the landforms and surface waters of the United States. The origin, classification, and structure of mountains, plains, hills, coast lines, rivers, lakes are discussed as well as the agents causing their birth and subsequent modification, agents such as glaciers, stream erosion, wind abrasion, tides and ocean waves.

Geog 555 Advanced Cartography

This course covers (1) map preparation to illustrate geographic reports; (2) map preparation from field data (triangulation and plant table); (3) map preparation from aerial photographs; (4) map preparation from existing cartographic materials and intelligence data. Modern techniques of plastic relief, scribing, color separation, as well as the capabilities of the newest cartographic and photogrammetric instruments are presented. Dependent upon class size and student interest, a field trip through one of the modern mapping agencies of the United States government may be arranged.

Geog 556 Map and Photographic Interpretation

Maps and aerial photographs enable the geographer to correctly grasp the spatial perspective of the landscape; they enable him to garner much geologic, economic, land use, transportation, strategic information quickly without costly, lengthy field trips — and often for areas that may be currently closed because of political or other animosity. This course develops the ability of the geographer to obtain a maximum of correct information by becoming familiar with the tools of photogrammetry and aware both of the limitations and usefulness of maps and aerial photographs.

Geog 557 Geographic Research

Research in the area of geographical knowledge embraces field and bibliographical studies as well as introduction to authoritative sources. It includes familiarization with geographical concepts, geographic techniques, laboratory and field procedures, and utilization of instruments and devices. Prerequisite: Ed 515 or six hours of graduate work in geography.

Geog 563 Field Course in Geography

The use of field tools and techniques are used in the study of a specific area. Emphasis is upon skill and interpretation of areal patterns of geographic phenomena.

GUIDANCE

Guid 531 Philosophy and Principles of Guidance

This course is designed to give an over-all view of the role of guidance in the educational program. It deals with the function and implementation of guidance services, duties of guidance functionaries, types of guidance organizations, and the relation of the curriculum to guidance and of the teachers to the guidance worker. Guidance practices used in helping solve student problems of adjustment are stressed. This course is prerequisite for all other courses in guidance.

Guid 532 Psychology of Growth and Development

This course is designed to provide insight into how people grow and develop from infancy to old age. Maturation, learning, and their interrelationships are studied. Physical growth patterns are noted along with emotional, intellectual, and social development with implications for the school, community, and home.

Guid 533 Evaluative Methods in Guidance I

Emphasis in this course is placed on intelligence, personality, and special abilities testing. Consideration is given to source, reliability, validity, standardization, and other pertinent aspects. Prerequisite: Education 516.

Guid 534 Evaluative Methods in Guidance II

This course will be a selective and intensive study of achievement tests, vocational interest tests, rating scales and other evaluative instruments useful in guidance work. Emphasis will be placed upon criteria for selecting and evaluating tests, and upon interpreting them for purposes of diagnosis and counseling. Prerequisite: Guidance 533.

Guid 535 The Study of the Individual (Case Studies)

This course is designed primarily to study the principles, problems, methods, and content involved in developing case studies. Consideration will be given to the kinds and the scope of data needed for understanding and to the role and the relationships of the individuals concerned. Prerequisite: Guidance 531, 532, 534.

Guid 536 Occupational and Educational Information

In this course emphasis is placed upon the collection and evaluation of occupational material, its proper filing, and the uses of such information in vocational counseling. Educational information relating to vocational choice and preparation; sources of occupational literature; occupational studies; and vocational surveys are included in the course. Prerequisite: Guidance 531.

Guid 537 Techniques in Counseling

This course deals with the theories, objectives, principles, and practices involved in counseling as they apply particularly to the work of the classroom teacher and the personnel in guidance. Counseling techniques used with individuals and with groups will be studied, and attention to both diagnosis and treatment will be given. Prerequisite: Guidance 535.

Guid 538 Organizing and Administering the Guidance Program

In this course various types of patterns in guidance organizations, lines of authority, administrative responsibilities of guidance personnel, and physical facilities needed in administering the guidance program are considered. Emphasis is given to the administration of each of the key guidance services necessary in an adequate guidance program. Prerequisite: Guidance 534.

Guid 539 Group Guidance

This course deals with the major objectives of guidance through group procedures and the common types of group-guidance activities which will lead to the establishment of student readiness for individual counseling. Articulation program, orientation, home-room activities, courses in adjustment problems, the extra-curricular program, and such special programs as career and college days are considered. Prerequisite: Guidance 531.

Guid 540 Clinical Techniques in Guidance

This course offers practical experience in the use of clinical instruments in the field of guidance. Prerequisite: Guidance 537.

Guid 551 Individual Diagnosis in Guidance

Opportunity is provided in this course for intensive study and analysis of case materials involving the personal, social, educational, and vocational problems and adjustment of elementary, secondary, and college students. Possible interpretations of behavior and recommendations for the individual's future will be discussed. Prerequisite: Guidance 540

HEALTH - PHYSICAL EDUCATION**HPe 521 Advanced Seminar in Health and Safety**

This course will explore the basic health and safety needs of students. It will deal primarily with the results of a study of scientific articles on health which have appeared in medical, public health, and allied professional journals over a period of five years.

HPe 530 Workshop in Community-School Health Education

This workshop is concerned with school, community and public health including mental health, nutrition, dental physical education, health services, environment, health teaching and evaluation. Special projects, consultation, visitation, discussions and sources of information and materials will be considered.

HOME ECONOMICS**HE 521 Problems in Family Living**

Transportation, communication, and technological advances with labor saving and other devices are bringing so many possibilities and changes to the home that it is necessary constantly to challenge the home's adjustment. The course will utilize knowledge and research from science, medicine, technology, sociology, economics, art, and psychology in being better able to: provide food, shelter, clothing, utilize time, energy, and material resources; and increase day to day satisfactions in living. Seminars and the problem solving method will be used.

MATHEMATICS

A candidate for the Master of Education Degree with a major in Mathematics must have acceptable undergraduate credit in Mathematics of at least 24 hours. He will complete thirty hours of graduate work in accordance with the requirements indicated and with his adviser, choose the electives best suited to his needs. He should begin work on a topic for a research project or thesis soon after he is accepted as a candidate for the degree.

Math 510 Seminar in Mathematics I (Arithmetic, Algebra and Informal Geometry)

This course will acquaint the student with recommended curricula for the 7th, 8th, and 9th grades in mathematics. Emphases will be placed on programs for the slow, the average, and the gifted learners. It is planned that guest lecturers will discuss the Illinois, Maryland, and Yale plans and that demonstration classes will be observed. Students will work on selected individual problems

Math 511 Seminar in Mathematics II (Senior High School Mathematics)

This seminar will acquaint the student with recommended curricula for the 10th, 11th, and 12th grades in mathematics. Emphases will be placed on up-dating curricula now being followed by the in-service teachers. Special attention will be given to teaching topics of equation, sets, graphs, functions, and geometry including elements of analytic geometry. Guest lecturers of Seminar I will be available to this Seminar also

Math 521 Basic Concepts in Mathematics

This course aims to develop an understanding of mathematics as a system of thought and will include such topics as kinds of number, scales of notation, the nature of arithmetic operations, basic principles of general numbers and measurements, the history and development of number and some of the contributions to our civilization, and elementary discussions of mathematics developed in the past one hundred years. (Open only to non-Mathematics majors).

Math 526 Fundamental Concepts of Analysis

This course will include discussions of the basic concepts of analysis, including derivative, limit, and integral. Several possible formulations of each concept will be compared. Consideration will be given to applications in the natural and social sciences. The course should enable teachers to develop basic concepts of the calculus in high school courses.

Math 530 Differential Equations

This course deals primarily with the solution of differential equations of the first and second order and linear equations with constant coefficients, with applications to geometry and physics.

Math 531-532 Advanced Calculus I, II

The concepts to be developed in this course are considered basic in analysis. Discussions will pertain to limits and continuity, differential and integral calculus of functions of several variables, line and surface integrals, and an introduction to the theory of infinite series.

Math 533 Infinite Series

A development of the theory of the convergence of series. Among the topics considered are: sequences; series of positive, arbitrary, and variable terms; double series, power series; types of convergence and the associated operations with series.

Math 534-535 Functions of a Complex Variable I, II

This course is a study of the properties of complex numbers and functions, including: analytic and elementary functions, the Cauchy-Goursat integral theorem, contour integrals, power series, residues and poles, conformal mappings, Schwarz-Christoffel transformation, and an analytic continuation.

Math 536 Functions of a Real Variable

A systematic development of some of the modern theories of differentiation and integration, which proceeds as follows: the theory of sets, limits, continuity, derivatives, convergence of series, implicit function theorems, and the Lebesgue and Riemann integrals.

Math 560 Foundations of Algebra

This course is designed to acquaint the student with the axiomatic structure of algebra. It includes an introduction to the theories of groups, rings, integral domains, and fields. Mathematical models for these theories are taken from the systems of natural numbers integers, rational numbers, real numbers, and complex numbers, finite arithmetics and vector spaces.

Math 561 Modern Algebra I

Intended as an introduction to some of the concepts of modern algebra, this course will be a discussion of the theory of matrices and linear transformations, linear spaces, and bilinear and quadratic forms.

Math 562 Modern Algebra II

The discussion of the topics of Math 561 will be continued followed by a survey of abstract algebraic structures such as groups, rings, and fields.

Math 571 Modern Geometries

This course will be a study of the invariant properties of geometric forms under transformation. Linear dependence of points and lines, harmonic division, and cross ratio will be treated, followed by an introduction to projective geometry, metric geometry of the complex plane, affine and space geometry.

Math 572 Projective Geometry

The topics of Math 571 will be developed in more detail from the synthetic point of view. Discussions will concern: projection and section, ideal elements, projectively related forms, harmonic sets and resulting metric properties, polarity, involution, and conic sections from a projective standpoint.

Math 573 Topology

A study of the properties of geometrical figures under topological transformations will be conducted, considering the theory of sets, topological spaces, continuous mappings, compactness, connectedness, and function spaces.

Math 580 Logic

A survey will be made of the classical and the modern systems of logic and their use in testing the validity of mathematical reasoning. Algebraic structures in logical systems will be discussed, followed by a brief study of effective computability, Godel's theorem, and related topics.

Math 581 Advanced Statistics

The theory of modern statistical analysis will be developed and used in the solution of practical problems from the fields of education and industry. The major areas of study will be: distribution functions, sampling theory, point estimation, and hypothesis testing. A knowledge of differential and integral calculus is requisite.

Math 582 Theory of Probability

This course deals with the basic concepts of probability theory with emphasis on practical applications. Topics include: the theory of permutations and combinations, distribution functions, Bernoulli's and Bayes' theorems, and the normal and poisson distributions.

Math 583 Linear Programming

This will be a basic presentation of the theoretical, computational, and applied areas of linear programming. The simplex method and other computational techniques will be discussed. Applications will pertain to: transportation type, assignment, and combinatorial problems, scheduling and inventory theory, and linear programming. Prerequisite: Math 581.

Math 584 Insights Into Modern Mathematics

This course involves a study and discussion of the twenty-third yearbook of the National Council of Teachers of Mathematics. Topics include the concept of number operations with sets, limits, functions, and topology. This course provides reference material for both the content and the spirit of modern mathematics.

MUSIC EDUCATION

Mus 501 Advanced Choral Conducting

A diagnosis of each individual's conducting technique will be made and corrective procedures introduced. Material for this process will include the large choral works with and without accompaniment. The student will be expected to further develop skills in reading score.

Mus 502 Advanced Instrumental Conducting

An intensive study of larger instrumental works will be developed especially treating the specific conducting techniques necessary to the successful performance of these compositions. The skill development of each individual will be stressed.

Mus 503 Music Literature of the Baroque Era

A stylistic analysis of the period from Monteverdi through J. S. Bach and G. F. Handel. The chronological limitations of the course will be approximately from A.D. 1600 to 1750. Extensive use will be made of the scores and recordings as well as all live performance available in the area.

Mus 504 Music Literature of the Eighteenth Century

An intensive study of the development of standard musical forms and the modern orchestra. The beginning of the period to be considered is marked by the Mannheim School, continues through Haydn and Mozart, and concludes with early Beethoven.

Mus 505 Music Literature of the Early Romantic Era

A detailed study of representative compositions and composers from the later works of Beethoven through the Lieder, changing orchestral styles and the romantic opera.

Mus 506 Music Literature of the Late Romantic Era

A careful consideration of selected works of the latter part of the Nineteenth Century including the Music Drama, the symphonic poem, trends, and styles as they emerged.

Mus 507 Music Literature Since 1900

A study of the main currents of musical thought and an analysis of trends and styles since the turn of the century with particular reference to selected compositions of Prokofieff, Stravinsky, Milhaud, Bartok, Hindemith, Schoenberg, Shostakovich, et al.

Mus 511 Composition

Composition of music in the various song forms through the rondos and the larger sonata allegro form. The student will be guided in his compositional attempts by careful analysis of similar forms of major composers. Instruction will be highly individualized as to the forms attempted and will depend considerably on the personal interest of the student.

Mus 512 Advanced Orchestration

Consideration will be given to the problems of scoring for the full symphony orchestra as well as the string orchestra and the chamber orchestra. Students will be expected to produce a full score and orchestral parts so that the orchestration may be tested by actual playing by the College Symphony.

Mus 513 Advanced Band Scoring

The problems of scoring for the modern concert band will be considered in detail. Actual scoring for the full symphonic band will be one of the major projects of the course. In addition, the problems of scoring for the brass band, the woodwind choir, and the percussion ensemble will also be considered. Scores and band parts for all projects will be produced by the student for an actual test playing by the College Symphonic Band.

Mus 514 Advanced Choral Arranging

Four-part writing for chorus will be reviewed. Five, six, seven, and eight-part writing will comprise the large part of the course. Special consideration will be given to the problem of writing for men's voices and for women's voices. All projects of the class will be duplicated in full choral score for actual test performance by one of the major vocal groups of the college.

Mus 515 Canon, Double Counterpoint and Fugue

The application of contrapuntal techniques through analysis and creative writing. Included will be the study and writing of two- and three-voice canons; two- and three-part inventions; and two-, three-, and four-voice fugues.

Mus 516 Form and Analysis

A study of representative compositions of various periods, with emphasis on formal harmonic and stylistic analysis. The student will develop the basic analytical techniques necessary for the analysis of music of any period.

Mus 521 Music Literature and Materials (see Elementary Education Program)

The purpose of this course is to further enhance the musical background of the elementary teacher through acquaintance with suitable literature and materials.

Mus 530 Music Criticism

Consideration of the problems involved in evaluating musical performance of many levels. A study of various approaches to critical evaluation of musical performance. Several detailed procedures of approaching the adjudication of musical groups of various levels will be developed.

Mus 531 Administrative Problems in Music Education

A review of the conventional administrative organization of music education in the public schools. The role of the music director, the music specialist, the consultant, and the music resource teacher will be carefully defined. Consideration will be given to the problems of scheduling in the public school. Current issues concerned with music education and public education in general will be considered, including curriculum development.

Mus 532 Seminar in Music Education

There will be a considerable amount of freedom in the development of this course. The content each time it is offered will be governed by the specific needs of the students programming the course. These needs will be of two general classes: (1) Strengthening areas of weakness, (2) exploring further, areas of interest.

Mus 533 Comparative Choral Methods

Materials and procedures of the preparation of vocal groups for public performance. Several accepted, yet contrasting, approaches will be considered, ranking from the Christiansen technique to that of John Finley Williamson. Special attention will be given to program building.

Mus 534 Comparative Instrumental Methods

Consideration will be given to those materials and procedures which have been proven by actual use in the United States. These various approaches will be compared and given a critical analysis by the class. Rehearsal techniques, efficient use of time and basic motivation will be stressed. The development of interesting programs will be considered.

Mus 535 Psychology of Music Education

An analysis of the latest evidence produced by the field of psychology in music education as applied in actual classroom situations. A review of the latest developments in psychological research relating to specific music education problems will be included.

Mus 536 Church Music

The liturgies of all conventional church denominations will be analyzed from the standpoint of the duties of the church choir conductor. Materials and procedures applicable to volunteer groups will be reviewed and analyzed. The problem of rehearsal attendance and basic motivation will be considered. The course will also include recruitment, budgetary problems, and basic relationships with the administration of the church or synagogue involved.

Mus 540-591 Applied Music

The following courses will be taught in the form of private lessons geared to the individual student and aiming at maximum progress of each student, depending on the background of the student and the time available:

- Mus 540, 541, 542, 543 Private Piano
- Mus 544, 545, 546, 547 Private Organ
- Mus 548, 549, 550, 551 Private Voice
- Mus 552, 553, 554, 555 Private Violin
- Mus 556, 557, 558, 559 Private Viola
- Mus 560, 561, 562, 563 Private Cello
- Mus 564, 565, 566, 567 Private Clarinet
- Mus 568, 569, 570, 571 Private Flute
- Mus 572, 573, 574, 575 Private Oboe
- Mus 576, 577, 578, 579 Private Bassoon
- Mus 580, 581, 582, 583 Private Trumpet
- Mus 584, 585, 586, 587 Private French Horn
- Mus 588, 589, 590, 591 Private Trombone or Baritone

PSYCHOLOGY**Psy 531 Psychology of the Exceptional Child**

This course is designed to aid the student in meeting the needs of those children who deviate from the typical in areas of physical, mental, emotional, and educational developments. Consideration will be given to methods of instruction and curricular material.

Psy 532 Studies in Child Adjustment and Guidance

This course considers the problems of child adjustment in relation to causative factors. It stresses the dynamics of the child's need to make an adequate adjustment in his relations with other children and adults. The various causes of childhood maladjustment and the classroom teacher's function in remedial treatment will be explored. Case material will be used with direct application to specific problems.

Psy 533 The Psychology of Personality

A consideration of the varied approaches to the problem of understanding personality. The objective will be to give the student an overview of each of the methods of analyzing personality that has, over an extended period of time, withstood careful scrutiny and investigation. The course will undertake some measure of integration by indicating similarities among the various approaches.

Psy 540 Mental Hygiene

This course is designed to offer a comprehensive treatment of the basic principles of mental hygiene. Its major concern is the normal, reasonably well-adjusted individual. Special emphasis will be given to the influence of activities carried on in the home, the school, and the community in an effort to stress the importance of prevention in the maintenance of mental health.

Psy 541 Individual Psychometric Techniques: The Binet Scales

Historical development, administration, scoring, and interpretation of the Stanford-Binet intelligence tests. Prerequisites: Guid. 534 or its equivalent, and consent of the instructor and chairman of the program.

Psy 542 Individual Psychometric Techniques: The Wechsler Scales

Historical development, administration, scoring, and interpretation of the Wechsler intelligence tests. Prerequisites: Guid. 534 or its equivalent, and consent of the instructor and chairman of the department.

Psy 560 Rorschach

This course gives a brief study of the Rorschach technique, its administration, scoring, and interpretation. Demonstrations will be presented to the class. Students will give tests under supervision.

Psy 561 Advanced Psychological Practicum

Structured to provide the graduate student, qualified in either psychology or guidance, with a working experience in a clinical situation. The student will participate, under supervision, in educational, vocational, and personal advisement. Registration only with permission of the Director of the Psychological Clinic

Psy 565 Measurement of Interests and Personality

This course is concerned with an intensive study of selected interest inventories which illustrate different techniques of measurement and with the various instruments used to measure nonintellectual aspects of behavior, as for example, emotional adjustment, social relations, motivation, attitudes, and the like. Projective techniques will not be included in the study of "personality tests." Prerequisite: Guid. 534.

SCIENCE

Due to the rapidly expanding role of Science in our technological society, secondary schools are finding it necessary to increase their offerings in this field. This in turn requires teachers with strong backgrounds of knowledge as well as a greater number of science teachers. The Science Department recognizes the important role of Science in modern society and has planned the graduate program in Science to provide maximum opportunities for science teachers to improve themselves scholastically and in teaching techniques.

Two areas of concentration are available to the graduate student. These are Biological Science and Physical Science. Students who have specialized in either of these broad areas in undergraduate school will find a wide offering of courses in these two content areas at the graduate level. In many instances teachers in one of these areas may wish to take courses in the alternate field. Provision is made for such contingencies.

Prior to his admission to candidacy for a degree, each student is assigned a faculty adviser by the Dean of Graduate Studies. With the aid of the adviser, the candidate will select a program which will make a maximum contribution to the development of the candidate in his chosen field. The adviser will also assist the student in choosing, preparing, and presenting his thesis or research project.

Sci 510 Problems in Science Education

This course will examine specific classroom problems in the light of current research in science education. Emphasis will be given to new approaches to curriculum revision, the introduction of concepts of modern science, the use of group dynamics in classroom situations, and recent efforts directed towards achieving the objectives of science education. Prerequisite: six hours of science at the graduate level.

Sci 521 Recent Advances in Science (For Non-Science Majors)

Designed to bring the student up-to-date with the more recent developments in the field of science that have taken place in the past twenty-five years, this course assumes a background of information of the fundamentals of biological science and physical science.

Sci 531 Atomic Structure

This course includes a brief review of fundamentals of electricity and magnetism. Following this, the major topics are charged particles, atomic structure, electromagnetic radiation, waves and particles, electron configurations and atomic spectra. Prerequisites: General Physics, Mathematical Analysis.

Sci 532 Interrelationships in Science

This course is designed to help the student to evaluate the major divisions of scientific knowledge. Various problems will be selected and the contribution of biology, chemistry, and physics, to the solution of these problems will be studied. Three hours per week. Prerequisites: Chemistry I, II, Physics I, II, and Biology I, II.

Sci 533 History of Science, Scientific Literature, and Terminology

This course is designed to broaden the general scientific culture of those already prepared to teach science in the three respective fields of biology, chemistry, and physics. The course is an intensive study of the history of science throughout the world and an appreciation of the literature, terminology, the scientific method, and philosophy of science.

Sci 534 The Solar Family

This course is planned as a study of the characteristics and behavior of the planets and their satellites, asteroids, meteor, comets and other phenomena of the solar systems. One of the major topics will be to investigate and criticize several of the theories as to its origin. It will require some treatment of celestial mechanics, a topic which will be briefly reviewed as part of the course, but will not advance to a level which requires a background of calculus.

Sci 541, 542 Comparative Anatomy I, II

This course is a comparative study of the structure of representatives of the classes of vertebrates. The shark, necturus, and cat will be dissected. Three hours per week throughout the year. Prerequisite: Zoology I, II.

Sci 543, 544 Embryology I, II

A comprehensive course tracing the maturation of gametes, fertilization, cleavage, differentiation, organogenesis, and development in the vertebrates. Major emphasis will be placed on such phenomena in the chick, with correlative work on the frog and pig. A two-semester course with both lecture and laboratory work that meets three hours a week. Prerequisites: Zoology I, II. Comparative Anatomy is desirable.

Sci 545 Microtechnique

A course designed to acquaint the student with the procedures involved in the production of microscope slides. Techniques of preparing whole mounts, microtome sections and serial sections will be covered. Both plant and animal materials will be used. A one-semester course that will meet three hours per week, at least two of which will be spent in independent slide preparation. Prerequisites: Botany I, II, Zoology I, II.

Sci 551, 552 Taxonomy of Plants I, II

This course includes the collection, identification, and classification of vascular plant species with special emphasis on family characteristics and phylogeny. Three hours per week throughout the year. Prerequisite: Botany I, II.

Sci 553, 554 Taxonomy of Animals I, II

This course is a study of the classification system and its application to the identification of animals. Both Invertebrates and Vertebrates are included. Students are required to make collections of the common animals of the region. Prerequisite: Zoology I, II.

Sci 555 Principles of Plant and Animal Distribution

Consideration will be given to the scientific principles underlying the geographic distribution of plants and animals. The factors causing speciation, the centers of origin, and the effects of climate, barriers, and geologic age on migration and range will be studied. Prerequisites: Botany I, II, Zoology I, II.

Sci 561 Plant Structure

The anatomy of typical representatives of the vascular plants will be studied. Consideration will be given to the variations in structure and development of root, stem, leaf, and flower among various plant families. Prerequisite: Botany I, II.

Sci 562 Animal Physiology

Through lectures and laboratory work, students will consider the events of digestion, molecular transport of nutrients and wastes, gaseous exchange, excretion, muscular movement, and control by endocrines and nervous tissue. Prerequisites: Zoology I, II, Inorganic Chemistry I, II.

Sci 563 Physiology of Plants

Cell physiology including respiration, photosynthesis, fermentation, enzyme catalysis, auxins, and membrane phenomena will be stressed. Tropisms, mineral nutrition, water metabolism, and the translocation of solutes are additional areas of discussion and experimentation

Sci 564 Problems in Biology

The course offers the opportunity for a student to conduct a literature search combined with controlled experimentation on a limited biological problem. Each student will choose a problem of interest from a field previously studied and work in consultation with his instructor. Prerequisites: six hours of graduate work in Biology and consent of the department.

Sci 546, 547 Biochemistry I, II

A study of the chemistry, metabolism, and function of the principal constituents of living matter. Three hours per week throughout the year. Prerequisites: Analytical Chemistry, Organic Chemistry.

Sci 548, 549 Physical Chemistry I, II

This course considers the gases, liquid, and crystalline states of matter, with relative molecular structure and physical properties. Thermochemistry, thermodynamics, electrochemistry, photochemistry, mechanochemistry, colloidal chemistry, nuclear chemistry, and relative problems of solutions, heat, work, and heat capacity, solutions of non-volatile solutes, homogeneous and heterogeneous chemical equilibria, ionic equilibria, and quantum theory will be studied. Three hours per week throughout the year. Prerequisites: Physical Chemistry, Integral Calculus.

Sci 565, 566 Advanced Inorganic Chemistry I, II

Descriptive chemistry of selected elements and compounds. Interrelationship of atomic structure, chemical properties, and physical properties. Applications to experimental work. Prerequisites: Qualitative and Quantitative Chemistry or Qualitative and Physical Chemistry.

Sci 567 Analytical Mechanics I

The topics of this course are kinematics, particle dynamics, gravitation, free and forced harmonic motion. The treatment of these topics involves the use of vector methods and the differential and integral calculus. Prerequisites: General Physics, Mathematics through Differential Equations.

Sci 568 Analytical Mechanics II

The topics of this course are the dynamics of rigid bodies, wave motion, and statics of particles and rigid bodies.

Sci 569, 570 Electricity and Magnetism I, II

Topics developed are D. C. and A. C. Circuits including properties of circuit elements, electrostatic and magnetic fields, magnetic properties of materials, oscillating circuits and Maxwell's theory of electromagnetic radiation. Some elementary concepts of vector analysis are developed and used where they clarify the treatment. Three hours lecture per week, including some laboratory work and demonstration. Prerequisites: Sci 181, 182. Physics I, II. or the equivalent, mathematics through differential and integral calculus.

Sci 571 Advanced Laboratory Practice

Study of selected topics in physics using advanced laboratory and mathematical techniques.

Sci 572 Demonstrations in Chemistry and Physics

Classroom and lecture demonstrations to be prepared and presented and evaluated by students and instructor. The course will include some elementary instruction in glassworking. Prerequisites: Chemistry I, II. Physics I, II

SOCIAL STUDIES

The Master of Education degree in Social Studies is designed to give secondary teachers greater depth and competency in the subject matter and research techniques of the Social Sciences. Preliminary to the selection of a thesis or project topic, the student must program a seminar in one Social Studies division.

SS 510 New Viewpoints in Social Studies Instruction

Starting with the conclusions developed from recent research in the several social sciences, a study will be made of the curricular and instructional changes which have been proposed to close the gap between what we now know about human behavior and what is generally taught in social studies courses.

SS 514 Research Methodologies in the Social Sciences

Selection of a research topic, techniques of locating and using source materials, the evaluation of evidence, the organization of the tested data, and the exposition of the tested data according to approved forms. Methodologies of value to students of politics, economics, or sociology will receive attention, in addition to those techniques usually treated in historiography.

SS 521 Contemporary American Issues

This course will be conducted in seminar fashion, centering its attention on one or two major contemporary American issues. Open only to non-majors in the Social Sciences.

SS 531 Economic and Social History of Pennsylvania

This course analyzes the economic and social background of Pennsylvania with emphasis on regional development. The interplay of such factors as industrialization and immigration on organizational movements will be studied through the problem approach.

SS 532 U.S.-British Commonwealth Relations

Emphasis is placed on those aspects of United States and Commonwealth backgrounds and policies that aid mutual understanding and international accord in the modern world.

SS 533 Social and Intellectual History of the United States

An analysis of the cultural forces which have helped to shape modern America. Ways of living characteristic of certain periods will be studied, together with the more significant social-reform movements and their attendant systems of thought.

SS 541 Modern European Problems

A course area that considers Europe from the economic, social, political, diplomatic, and cultural points of view. Attention is also given to specific problems and to the role of European powers in world affairs.

SS 542 Contemporary Latin American Problems

A study of the major cultural, economic, political, and related problems currently confronting the Latin American countries.

SS 543 Modern Asian-African Problems

To understand better the nature and problems of a large portion of the non-Western world, the emphasis will be placed upon an analysis of contemporary, social, economic, and political developments in selected areas of Asia and Africa.

SS 544 History Seminar

Area research in the discipline, considering various facets of a central problem.

SS 551 International Economics

The nature of the world economy, international trade, international investment, current international institutions, and the foreign economic policy of the United States. Prerequisite: Principles of Economics.

SS 552 Comparative Economic Systems

Basic economic issues in capitalism, socialism, communism, and fascism, and their relationships to political and social problems. Prerequisite: Principles of Economics.

SS 553 Contemporary Economic Issues

Attention will be centered on problem areas of the domestic economy in this course. The primary focus in each semester will be determined by student-instructor interest. Prerequisite: Principles of Economics.

SS 554 Economics Seminar

Area research in the discipline, considering various facets of a central problem.

SS 561 Social Policy Studies

Focusing on several key issues on the American social scene, the class will examine the genesis of each problem, the present conflict of values inherent in the problem, the alternative proposals for its solution and the social consequences. Open only to non-majors in the Social Sciences.

SS 562 Deviant Behavior

Crime as a social product. The social-individual analysis of criminal behavior, its treatment and prevention. Lectures, discussions, papers. Prerequisite: Principles of Sociology.

SS 563 Intergroup Relations

Intergroup tensions and conflicts will be the subject of study with the major emphasis upon techniques of social action designed to reduce conflict. Prerequisite: Principles of Sociology.

SS 564 Sociology Seminar

Area research in the discipline, considering various facets of a central problem.

SS 571 Foreign Policy Studies

This course considers selected problems in international affairs. Emphasis is placed on those problems and conflicts which have evolved in the post-war era, particularly as they relate to the position of the United States in World affairs. Specific problems are approached both in terms of the countries involved and in terms of the existing balance in the world economic, ideological, and power structure.

SS 572 Comparative Political Studies

A course that considers the theory, structure, policies, and problems of selected foreign governments. Specific political ideas and governmental institutions are also analyzed from the comparative point of view. Special emphasis is placed on comparing and contrasting ideas and institutions with those of the United States.

SS 573 Regional Political Studies

Examines the structure and function of state, county, and municipal governments. It emphasizes the problems faced by government at these levels and seeks solutions to these problems. Pennsylvania governmental forms are stressed but are contrasted with those of other states.

SS 574 Political Science Seminar

Area research in the discipline, considering various facets of a central problem.

SS 581 Problems in Logic

A study of problems related to the methods of formal logic. Modern techniques of deduction with application to philosophy and the exact sciences.

SS 582 Problems of Ethics

A study of conflicting philosophies of life and ethical theories. Prerequisite: Introduction to Philosophy.

SS 583 American Philosophical Thought

A study of the more original and influential philosophies developed in America from the colonial period to the present. Prerequisite: Introduction to Philosophy.

SS 584 Philosophy Seminar

Area research in the discipline, considering various facets of a central problem.

SS 591 Studies in Anthropology

A survey for graduate students of the evolution of man and culture, presenting the principal findings of physical and cultural anthropology.

SS 592 Comparative Cultures

A comparative study of selected examples of the world's cultures, from primitive hunters to modern industrial systems, as adaptations to their geographical and social habitats.

SS 593 The Science of Culture

An introduction to the major theories of cultural anthropology which are employed to account for the variety and structures of man's cultures.

SS 594 Anthropology Seminar

Area research in the discipline, considering various facets of a central problem.

GRADUATE STUDIES BULLETIN

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